SHOUT
SHARE
IT

FOR THE PEOPLE
FOR EDVCATION
FOR SCIENCE

LIBRARY
OF
THE AMERICAN MUSEUM
OF
NATURAL HISTORY

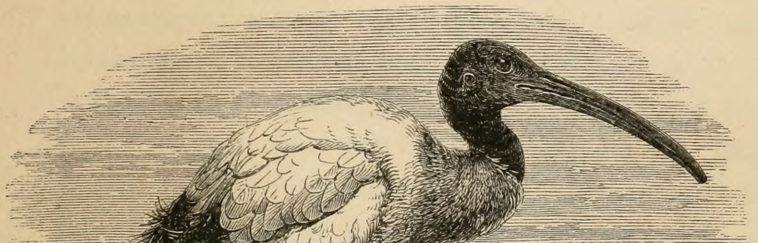
vols. 1859 - 1901
1902 - 1903

THE IBIS,

A MAGAZINE OF GENERAL ORNITHOLOGY.

EDITED BY
PHILIP LUTLEY SCLATER, M.A.,
FELLOW OF CORPUS CHRISTI COLLEGE, OXFORD;
SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON;
FELLOW OF THE LINNEAN SOCIETY; HONORARY MEMBER OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, OF THE LYCEUM OF NATURAL HISTORY OF NEW YORK, AND OF THE GERMAN ORNITHOLOGISTS' SOCIETY; ETC.

VOL. I. 1859.



"Ibimus indomiti venerantes Ibida sacram,
Ibimus incolumes qua prior Ibis adest."

LONDON:
N. TRÜBNER AND CO., PATERNOSTER ROW.

Paris.
FR. KLINCKSIECK,
11, Rue de Lille.

Leipzig.
F. A. BROCKHAUS.

New York.
JOHN WILEY,
56, Walker Street.

1859.

PRINTED BY TAYLOR AND FRANCIS, RED LION COURT, FLEET-STREET.

PREFACE.

The promoters of 'The Ibis' think it due to the public, and to themselves, that, on the completion of the first volume, some account should be given of the circumstances under which the undertaking was originated.

For some years past a few gentlemen attached to the study of Ornithology, most of them more or less intimately connected with the University of Cambridge, had been in the habit of meeting together, once a-year, or oftener, to exhibit to one another the various objects of interest which had occurred to them, and to talk over both former and future plans of adding to their knowledge of this branch of Natural History.

These meetings, being entirely of a private and social nature, were found agreeable by those who attended them, and gradually became more frequented. In the autumn of 1857 the gathering of naturalists was greater than it had hitherto been, and it appeared that among some of those present there was a strong feeling that it would be advisable to establish a Magazine devoted solely to Ornithology.

This feeling was not prompted by any jealousy of periodicals already existing, but by the belief that the number of persons who turned their attention principally to this one branch of Zoology was at any rate sufficiently great to justify an experiment which in a neighbouring country, and among a kindred nation, had succeeded so well.

The meeting therefore broke up with the understanding that in the following year the subject should be reconsidered. During the interval, communications, either personally or by letter, were freely kept up among those who had been present, as well as with others interested in the same study, in order that the different views which prevailed on the subject might be compared, and the project thus forwarded.

In November 1858, the annual assemblage took place at Cambridge; and, after due consideration, it was determined by those present that a Quarterly Magazine of General Ornithology should be established, that a limited subscription should be entered into to provide a fund for that purpose, and that the subscribers should form an 'Ornithological Union,' their number at present not to exceed twenty.

The cooperation of several other gentlemen, who were not present at this meeting, was soon afterwards gladly given; and the list now printed of the members of the Union will show the names of those who may be considered the original promoters of the undertaking.

At present, thanks to the exertions of its friends, the prospects of 'THE IBIS' are quite as satisfactory as were anticipated; but whether it can be continued, so as to pay its expenses, remains to be seen, and in fact must depend entirely on the support it meets with from ornithologists, both British and foreign. We therefore call upon all those who are interested in our branch of Natural History, both at home and abroad, to give us assistance in extending the circulation of our Magazine; in return for which we shall be happy to receive their communications and give publicity to their discoveries, and we shall do our best to keep them acquainted with the progress of ornithological science in all parts of the globe.

PHILIP LUTLEY SCLATER
(*Editor*).

11, Hanover Square,
Oct. 1859.

LIST OF MEMBERS

OF THE

BRITISH ORNITHOLOGISTS' UNION.

Robert Birkbeck, F.Z.S., 65 Lombard Street, London.

Henry Maurice Drummond, Lieutenant-Colonel, Royal Perth Rifles.

Thomas Campbell Eyton, F.L.S., F.Z.S., F.G.S., &c., Eyton Hall, Salop.

Frederick DuCane Godman, F.Z.S., 55 Lowndes Square, London.

Percy Sandon Godman, B.A., Corr. M.Z.S., Borregaard, Sarpsborg, Norway.

John Henry Gurney, M.P., F.Z.S., Catton Hall, Norfolk.

Rev. William Henry Hawker, M.A., Green Hook, Horndean, Hampshire.

Arthur Edward Knox, M.A., F.L.S., St. Anne's Hill, Midhurst, Sussex.

Edward Clough Newcome, Feltwell Hall, Norfolk.

Alfred Newton, M.A., F.L.S., F.Z.S., &c., Fellow of Magdalene College, Cambridge.

Edward Newton, B.A., Corr. M.Z.S., Assistant Colonial Secretary, Mauritius.

John William Powlett-Orde, late Captain 42nd (Royal Highland) Regiment, Kilmorey, Argyllshire.

Hon. Thomas Lyttleton Powys, F.Z.S., Lilford Hall, Northants.

Osbert Salvin, B.A., Corr. M.Z.S., Dueñas, Guatemala.

Philip Lutley Sclater, M.A., F.L.S., Sec.Z.S., &c., Fellow of Corpus-Christi College, Oxford; 11 Hanover-sq., London, W.

Alfred Forbes Sealy, M.A., F.C.P.S., &c., Trumpington Street, Cambridge.

Wilfred Huddleston Simpson, M.A., 21 Gloucester Place, Portman Square, London.

Rev. Edward Cavendish Taylor, M.A., F.Z.S., Oxford and Cambridge Club, Pall Mall, London.

Rev. Henry Baker Tristram, M.A., F.L.S., Rector of Castle-Eden, Durham.

John Wolley, jun., Esq., M.A., F.Z.S., Beeston, Nottinghamshire.

CONTENTS OF VOL. I. (1859.)

NUMBER I., *January*.

Page

I. On the Ornithology of Central America. By PHILIP LUTLEY SCLATER and OSBERT SALVIN. Part I. 1

II Notes on Birds observed in Southern Palestine in the months of March and April 1858. By the Rev. H. B. TRISTRAM, F.L.S. 22

III. Ornithological Reminiscences of Egypt. By E. CAVENDISH TAYLOR, M.A., F.Z.S. 41

IV. On the different Methods of preparing Natural Skeletons of Birds. By T. C. EYTON, F.Z.S. 55

V. Characters of apparently New Species of Birds collected in the Great Desert of the Sahara, southwards of Algeria and Tunis. By the Rev. H. B. TRISTRAM, F.L.S. 57

VI. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th, 1857, by ALFRED NEWTON, and between March 4th and September 28th, 1858, by EDWARD NEWTON. Part I. (Plate I.) . . 59

VII. On the Breeding of the Smew, *Mergus albellus*. By JOHN WOLLEY, jun. 69

VIII. Recent Discoveries in European Oology. By WILLIAM C. HEWITSON. (Plate II.) 76

IX. Review of Mr. BREE's "Birds of Europe not observed in the British Isles" 81

X. Recent Ornithological Publications:—

1. *English publications*:—Gould's 'Humming Birds,' pts. 15, 16; Gould's 'Birds of Asia,' pt. 10; Gould's 'Monograph of the Trogons,' new ed., pt. 1; Eyton's 'Osteologia Avium'; Bree's 'European Birds'; Illustrated Proceedings of the Zoo-

Page

logical Society, 1858, pts. 1, 2, 3; Annals of Natural History; The Zoologist; Horsfield and Moore's 'Catalogue of the Birds in the Museum of the Hon. East India Company'; De Verteuil's 'Trinidad'; Jones's 'Naturalist in Bermuda' . . . 99

2. *French publications.*—Bonaparte and Souancé's 'Iconographie des Perroquets'; 'Iconographie des Pigeons'; Revue et Magasin de Zoologie; Loche's 'Mammals and Birds of Algeria' 104

3. *German publications.*—Cabanis' Journal für Ornithologie, 1858, pts. 1–4; Naumannia, 1858, pt. 1; von Pelzeln's 'New or little-known species of Birds'; Kittlitz's 'Travels in Russian America' &c. 106

4. *American publications.*—Baird's Report on North American Ornithology; Proceedings of the Academy of Natural Sciences of Philadelphia, 1858; Annals of the Lyceum of Natural History of New York 108

XI. Extracts from Correspondence, Notices, &c.

Proceedings of Mr. Wallace in New Guinea; of Mr. Fraser in Ecuador; of M. Mouhot in Siam; Letter of Mr. Blyth from Calcutta; Extract from a Letter of Prof. Jameson, from Quito; M. Malherbe's work on the Picidæ; Living Struthious Birds in the Gardens of the Zoological Society; Attractions of Cilicia for Naturalists. (Plate III.) . 111

Number II., *April.*

XII. On the Ornithology of Central America. Part II. By Philip Lutley Sclater and Osbert Salvin. (Plates IV. and V.) 117

XIII. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th, 1857, by Alfred Newton, and between March 4th and September 28th, 1858, by Edward Newton. Part II. 138

XIV. Account of a Visit to a Nesting-place of the Frigate-bird (*Fregata aquila*). From a letter of George Cavendish Taylor, Esq. 150

XV. List of Birds received from Ibadan, in Western Africa. By John Henry Gurney, Esq., M.P. 152

Page

XVI. On the Ornithology of Northern Africa. By the Rev. H. B. Tristram, F.L.S. Part I. 153

XVII. Remarks on the Harlequin Duck (*Histrionicus torquatus*, Bp.). By Alfred Newton, M.A., F.L.S. . . . 162

XVIII. Notes on the Birds of Western Spitzbergen, as observed in 1855. By Edward Evans and Wilson Sturge 166

XIX. Five Months' Birds'-nesting in the Eastern Atlas. By Osbert Salvin, Corr. Memb. Zool. Soc. Part I. (Plate VI.) 174

XX. On the Breeding of the Crane (*Grus cinerea*) in Lapland. By John Wolley, jun. 191

XXI. Recent Ornithological Publications:—

1. *English publications*:—Bree's 'European Birds'; Illustrated Proceedings of the Zoological Society; Annals of Natural History; Catalogue of Mammals and Birds of New Guinea, by J. E. and G. R. Gray; Edinburgh Philosophical Journal, April 1859; Journal of the Asiatic Society of Bengal 199

2. *French publications*:—Jaubert and Barthélémy-Lapommeraye's 'Richesses Ornithologiques du Midi de la France'; Pucheran on the Ornithology of the Sandwich Islands; Revue et Magasin de Zoologie; de Saussure's 'Observations sur les mœurs de divers oiseaux de Mexique' 201

3. *German publications*:—Bädeker's 'Eier der Europäischen Vögel'; Proceedings of the Academy of Vienna; Cabanis' Journal für Ornithologie, 1858, pt. 5; Naumannia, 1858, pts. 2 & 3; Wiegmann's 'Archiv' for 1858; Zeitschift für algemeine Erdkunde for 1857 202

4. *American publications*:—Baird's Catalogue of North American Birds; Page's 'La Plata'; Proceedings of the Academy of Philadelphia; Journal of the Academy of Philadelphia 205

XXII. Letters, Extracts from Correspondence, Notices, &c.

Letter from Mr. Gould on the occurrence of the Goshawk; from Mr. Gurney on the colour of the irides of *Milvus ægyptius*; from Rev. H. Harpur Crewe on the early appearance of the Goatsucker; from Mr. Fraser on his travels in Ecuador; Mr. Wallace's discovery of a new Paradise Bird, and his collections made at Havre Dorey; Extracts from Mr. Blyth's letters; New American Works on Birds; Sale of Bennett's Cassowary and of Mr. Wolley's eggs 206

NUMBER III., *July*.

Page

XXIII. On the Ornithology of Central America. Part III. By PHILIP LUTLEY SCLATER and OSBERT SALVIN 213

XXIV. List of a Collection of Birds received from the Colony of Natal in South-Eastern Africa. By J. H. GURNEY, M.P., F.Z.S. (Plate VII.) 234

XXV. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th, 1857, by ALFRED NEWTON, and between March 4th and September 28th, 1858, by EDWARD NEWTON. Part III. 252

XXVI. Narrative of the discovery of some Nests of the Black Woodpecker (*Picus martius*) in Sweden. By W. H. SIMPSON, M.A. 264

XXVII. Notes on the Nesting of a pair of Eagle Owls (*Bubo maximus*) in confinement. By EDWARD FOUNTAINE . 273

XXVIII. Characters of an undescribed species of Hawk from New Caledonia. By PHILIP LUTLEY SCLATER. (Plate VIII.) 275

XXIX. On the Ornithology of Northern Africa. By the Rev. H. B. TRISTRAM, F.L.S. Part II. The Sahara. (Plate IX.) 277

XXX. Five Months' Birds'-nesting in the Eastern Atlas. By OSBERT SALVIN, B.A., Corr. Memb. Zool. Soc. Part II. 302

XXXI. Recent Ornithological Publications.

1. *English publications*:—Illustrated Proceedings of the Zoological Society; Gould's 'Birds of Asia,' pt. 11; G. R. Gray's List of Parrots; Bree's 'European Birds'; Eyton's 'Osteologia Avium,' pt. 2. 318

2. *French publications*:—Revue et Magasin de Zoologie; Pucheran's Papers in 'L'Institut' 322

3. *German and Scandinavian publications*:—Hartlaub's Monograph of the African *Lamprotornithinæ*:—Erhard's 'Fauna der Cycladen'; Sundevall's 'Svenska Foglarna'; Sundevall's Critique on Sparman's 'Museum Carlsonianum' and Le Vaillant's 'Oiseaux d'Afrique' 323

American publications:—Cassin's, 'Mammalogy and Orni-

Page
thology of the U. S. Exploring Expedition'; Proceedings of the Academy of Philadelphia; Baird's Catalogue of North American Birds 325

XXXII. Letters, Extracts from Correspondence, Announcements, &c.

Death of Mr. Edward Evans; Letter from Mr. Rowley on the Dartford Warbler, &c.; from Mr. Hawker on a supposed nest of the Ash-coloured Shrike; Mr. Wallace's discovery of a second Paradise-bird in Batchian; Mr. Fraser's proceedings in Ecuador; Mr. Salvin's return to Guatemala; Prof. Baird's Account of Progress of Natural History in the U. S.; Arrival of a pair of Bennett's Cassowary and other Birds at the Zoological Gardens 329

Number IV. *October*.

XXXIII. List of Birds observed and collected during a Voyage in the Red Sea. By Dr. Theodor von Heuglin. Edited and translated by Dr. G. Hartlaub. (Pates X. and XI.) 337

XXXIV. Five Months' Birds'-nesting in the Eastern Atlas. By Osbert Salvin, B.A., Corr. Memb. Zool. Soc. (Part III.) 352

XXXV. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th, 1857, by Alfred Newton, and between March 4th and September 28th, 1858, by Edward Newton. Part IV. (Plate XII.) . 365

XXXVI. On the occurrence of White's Thrush (*Oreocincla aurea*) near Stratford-on-Avon, with remarks on the genera *Oreocincla*, *Turdus*, and *Merula*. By Robert F. Tomes . . 379

XXXVII. List of Birds of Prey received from Beyrout. By John Henry Gurney, M.P., F.Z.S. 389

XXXVIII. Descriptions of Six new Species of Birds. By Daniel G. Elliot of New York. (Plate XIII.) 391

XXXIX. On the habits of the Black-winged Stilt as observed on its occurrence in Sussex. By A. E. Knox . . . 395

XL. Note on the breeding and mode of capture of the Short-tailed Petrel or Mutton-bird (*Puffinus obscurus*) in

Page

the islands of Bass's Straits. From the Journal of Robert Elwes 397

XLI. Notes on some of the Humming-birds of Ecuador figured in Mr. Gould's Monograph. By Dr. William Jameson of Quito, and Louis Fraser, Corr. Memb. Zool. Soc. . 399

XLII. Review of Herr Bädeker's and Dr. Brewer's Oological Works 400

XLIII. On the Ornithology of Northern Africa. By the Rev. H. B. Tristram, M.A., F.L.S. Part III. The Sahara (continued) 415

XLIV. A List of the Tyrant-birds of Mexico, with descriptions of some new species. By Philip Lutley Sclater, M.A. (Plate XIV.) 436

XLV. Note on Pel's Owl (*Scotopelia peli*). By John Henry Gurney, M.P., F.Z.S. (Plate XV.) 445

XLVI. Letter from Mr. Wallace concerning the Geographical Distribution of Birds 449

XLVII. Recent Ornithological publications.

1. *English publications*:—Gould's 'Monograph of the Humming-birds,' pts. xvii., xviii.; Gould's Supplement to 'The Birds of Australia,' pt. iii.; Illustrated Proceedings of the Zoological Society 1859, pt i.; Bree's 'European Birds'; Annals of Natural History; Collingwood's 'Migration of Birds' and 'Fauna of Blackheath'; E. Vernon Harcourt's 'Sporting in Algeria'; The Zoologist, Osburn on the Birds of Jamaica 454
2. *French publications*:—Revue et Magasin de Zoologie; Malherbe's 'Monographie des Pics' 457

3. *German, Dutch, and Russian publications*:—Cabanis' Journal für Ornithologie; Naumannia, 1858, pts iv., v., vi.; Schlegel and Herklots's 'Fauna von Nederland'; Hofman's 'Nordliche Ural' 458
4. *American publications*:—Pacific R. R. Reports, vol. x.; Brewer's 'N. American Oology'; Report of the Smithsonian Institution for 1858; Proceedings of the Academy of Philaphia for July 460

XLVIII. Letters, Extracts from Correspondence, Notices, &c.

Mr. Edward Newton's departure for the Mauritius; Mr.

Page
Fraser's Proceedings in Ecuador; Letter from Mr. Blyth; Letter from Mr. Salvin; Letter from Mr. Orde on the occurrence of rare Birds in the Hebrides; Notice of the Discovery of the Egg of the Californian Vulture; The Nesting and Egg of *Balæniceps*; Mr. Currie's note on the occurrence of Pallas's Sand-grouse in Norfolk; Mr. E. Fountaine's further note on the breeding of *Bubo maximus*; M. Radde's explorations on the Amoor; Mr. Gould's acquisition of *Diardigallus*; Continuation of Du Bus' 'Esquisses Ornithologiques'; Occurrences in the Gardens of the Zoological Society 461

ERRATA.

Page 6, line 15, *for* "Rev. Zool. 1848, p. 3," *read* "Rev. Zool. 1844, p. 41."
Page 120, line 10, for *citreopygia* read *citreopygius*.
Page 164, lines 6 and 7, *for* "Mr. Cassin, in Professor Baird's," *read* "Professor Baird in his."
Page 164, line 9, *for* "sea-coasts," *read* "sea-coast."
Page 164, line 10, *insert a comma after* "Iceland."
Page 164, line 14, *for* "the north of Norway and Finmark," *read* "the "north of Norway or Finmark"
Page 164, line 22, *for* "441," *read* "443."
Page 165, line 26, *for* "368," *read* "366."
Page 165, line 27, *for* "124," *read* "163."
Page 165, line 28, *for* "Devonport," *read* "Davenport."
Page 319, line 24, *for* "II." *read* "11."

PLATES IN VOL. I.

		Page
I.	Gymnoglaux nudipes	64
II.	Eggs of European Birds	76
III.	Cephalopterus penduliger	114
IV.	1. Elainia vilissima	122
	2. —— placens	123
V.	Eggs of Guatemalan Birds	138
VI.	Falco barbarus	184
VII.	Gallinula pumila	249
VIII.	Accipiter haplochrous	275
IX.	Saxicola philothamna, ♂ et ♀	299
X.	1. Sylvia delicatula	340
	2. Sula melanops	351
XI.	Otis heuglinii	344
XII.	Eggs of Birds of St. Croix	378
XIII.	Platypsaris affinis	394
XIV.	1. Mitrephorus phæocercus	442
	2. Camptostoma imberbe	444
XV.	Scotopelia peli	445

THE IBIS.

◆

No. I. JANUARY 1859.

I.—*On the Ornithology of Central America.* Part I. By Philip Lutley Sclater and Osbert Salvin.

Although the birds of Central America are tolerably well known to us from the numerous travellers and collectors who have explored different parts of its shores, and supplied the museums of Europe with specimens, no writer has as yet attempted anything like a general account of the ornithology of this remarkable country, where winter visitants from the northern portion of the New World mix with others of peculiar form and splendid plumage, which recall to one's memory the most brilliant ornaments of the tropical bird-faunas of Brazil and Cayenne. A considerable number of specimens having been lately transmitted to England from Guatemala—perhaps the most attractive part of the great Central-American isthmus,—and one of the writers of the present article having himself passed some months in that country, and collected specimens and made notes upon its birds, it has been thought that the opportunity should not be lost of attempting a sketch of the ornithology of this region, in order to form a foundation upon which a more complete work may hereafter be established. It is proposed, therefore, in the present paper, to give a list, with incidental remarks, of all the species of birds which are certainly known to inhabit Central America, from the confines of Mexico to where the Isthmus again contracts in the republic of Honduras, and the route of the proposed Honduras Interoceanic Railway gives a convenient southern boundary.

The authorities at present existing on the ornithology of this country are but few. The birds of Southern Mexico are known to us through the researches of MM. Sallé, Botteri, and Boucard*; but none of these explorers have yet descended so far south as the Isthmus of Tehuantepec. Yucatan, which lies within our limits, was visited by Dr. Cabot, who accompanied Mr. Stephens in his second journey. Several interesting papers† on the birds of this country were the results of this expedition, but unfortunately no accurate list of the species obtained was ever published. The only account of the birds of Guatemala that we are acquainted with, besides some scattered notices of new species by Dr. Hartlaub, the Vicomte Du Bus‡, and others, is the late Prince Bonaparte's article in the P. Z. S. 1837, "On the birds collected by Col. Velasquez de Leon during a fortnight's scientific tour in Guatemala." He gives here the names of thirty-nine species, some of which were then new. But several well-known collectors have visited parts of this country, and many of their specimens are now in the Derby Museum at Liverpool and our National Collection. M. Delattre passed some time at Coban, in the Vera Paz, during one of his 'voyages,' and has given us an account § of the habits of that magnificent bird the *Pharomacrus paradiseus*, which he first observed near that city. The late Mr. Dyson (whose chief object was, I believe, to procure the Ocellated Turkey) collected also on the Bay of Honduras and obtained many fine specimens. The late Señor Don José Constancia, of La Antigua Guatemala, was a correspondent of the late Mr. H. E. Strickland, and sent him several collections of birds, some of which were figured in Sir William

---

* See "Catalogue of the Birds collected by M. Auguste Sallé in Southern Mexico," by P. L. Sclater, P. Z. S. 1856, p. 283; and other papers, P. Z. S. 1857, p. 81, p. 201, p. 210, and p. 226; and 1858, p. 95 and p. 294.

† See Boston Journal of Natural History, iv. p. 246, and p. 460, v. p. 90, and p. 416; and the Appendix to vol. ii. of Stephens's 'Travels in Yucatan.'

‡ See "Description de sept oiseaux de Guatemala, par le Dr. G. Hartlaub," Rev. Zool. 1844, p. 215; "Sur une nouvelle espèce du genre *Melanotis*," ibid. 1852, p. 460: Du Bus in Bull. Acad. Bruxelles and 'Esquisses Ornithologiques.'

§ See Rev. Zool. 1843, p. 163.

Jardine's 'Contributions to Ornithology*.' Mr. Joseph Leyland of Liverpool has also recently visited the Bay of Honduras for the purpose of collecting objects of natural history. Mr. Thomas Moore, of the Derby Museum, has drawn up an account of the Mammals and Birds collected by Mr. Leyland, and has kindly allowed us the use of his MS., which we hope to see published shortly. Our southern limit, the line of the proposed railway through Honduras, was traversed in 1858 by Capt. G. C. Taylor. A list of the birds obtained by him will be found in the Proceedings of the Zoological Society † for the same year, and is our only authority upon the birds of this district. Farther southwards, the ornithology of Nicaragua has been partly explored by Delattre ‡ and Sallé §, and that of Veragua by Mr. Bridges ||, M. Warscewicz ¶, and the surveying expedition under the command of Capt. Kellett. The specimens obtained from the latter source are now in the British Museum. We believe we have now mentioned nearly, if not quite, all the authorities on Central American ornithology **. Of such of these as relate to the territory within our limits we have of course availed ourselves. But we have derived most assistance from the series of bird-skins which have been lately transmitted by George Ure Skinner, Esq., from Guatemala. This gentleman, well known for the splendid Orchids †† which he has

---

* See Contr. Orn. pl. 17, pl. 33, &c. Some of the duplicates from these collections passed into my possession.—P. L. S.

† See P. Z. S. 1858, p. 356.

‡ See "Note sur les collections rapportées en 1853 par M. A. Delattre de son voyage en Californie et dans le Nicaragua par Charles Lucien, Prince Bonaparte," Compt. Rend. xxxvii. and xxxviii., and also separately printed.

§ The two beautiful Mammals figured in P. Z. S. 1848, pl. vi. and vii., *Mycetes palliatus*, Gray, and *Sciurus dorsalis*, Gray, were obtained by M. Sallé during this journey near Grenada in Nicaragua, and not at Caraccas, as there stated.

|| See P. Z. S. 1856, p. 138.

¶ See P. Z. S. 1850, p. 162.

** Whether Dr. Wagner and Dr. Scherzer, who have recently travelled through the Central American republics, collected any birds, we do not know, but we believe they have not yet *published* anything on the subject.

†† *Cattleyia skinneri*, *Barkeria skinneri*, *Lycaste skinneri*, *Odontoglossum grande*, and many other magnificent species.

imported from the same country, has lately employed collectors * in several parts of the republic, more particularly at Salamà, Cajabon, and other places in the Vera Paz; and it is to his exertions that science is indebted for the knowledge of the appropriately named *Cotinga amabilis,* for additional specimens of the wonderful *Oreophasis derbianus,* and many other ornithological rarities.

Salvin, from whose personal observation the greater part of our notes are derived, reached Belize in the middle of December 1857. After a few days' stay, he proceeded down the coast to Ysabal, on the inland lake called the Golfo Dulce, and thence by easy stages up to the city of Guatemala, collecting by the way when the opportunity presented itself. Dueñas, about thirty miles south of the capital, situated nearly between the two volcanos of Agua and Fuego, was his head-quarters during his six months' residence in the country; but he also made two excursions towards the Pacific coast, and one to the lake of Atitlan in the Altos of Guatemala. Leaving the country towards the end of June last, he returned home by the Pacific coasting steamer and Panama.

The part of Central America which we are now speaking of, being in fact a continuation of Mexico, partakes of much of the same general physical contour, and embraces three distinct faunas. The first is that of the Atlantic coast-region, or *tierra caliente,* bordering the Caribbean Sea. This varies greatly in breadth, extending nearly over the whole of the northern portion of the peninsula of Yucatan, but in other places being confined within narrow limits. It may be held to embrace all the eastern slope of the watershed up to the height of 4000 feet. Corresponding to this on the other side is the Pacific coast-region, also a *tierra caliente*, extending to about the same height above the sea-level. It differs, however, in being of a uniform narrow width of not more than 50 miles, and the descent to it from the table-land is abrupt, and is well defined by the volcanic chain which borders the western limit of the table-land. In these two coast-regions occur nearly all the tropical forms which are represented in the ornithology of Guatemala, but we believe that the two faunas are nevertheless quite distinct, and that the same species seldom occurs in both districts. We have not yet sufficient information to enable us to work out this subject; but we may remark, that *Meleagris ocellata, Cotinga amabilis, Ramphocelus passerinii, Anabates rubiginosus,* and *Galbula melanogenia,* may all be considered as species peculiar to the Atlantic coast-region; while *Buteo ghiesbreghti, Ara aracanga,* and others, appear to be confined to the Pacific.

---

* We regret to hear by late accounts of the death of one of the most active of these—Rivera Paz, whose sevices it will be difficult to replace.

Between the two coast-regions, embracing the whole interior of the country, is the central region or table-land of Guatemala, varying in altitude from 4000 to 8000 feet, out of which rises a chain of volcanic peaks, which in some cases attain a height of nearly 14,000 feet. There are many forms peculiar to this district. In the first place, it is the winter residence of the greater part of the northern migrants, which abound here from October to the end of March. Our list will show a large number of these birds. Of the many residents peculiar to this region, we may mention as characteristic examples, *Oreophasis derbianus, Pharomacrus paradiseus, Pyrgisoma biarcuatum, Turdus grayii* and *T. rufitorques, Panyptila melanoleuca, Corvus cacalotl* (?), and *Erismatura rubida.* The province of Vera Paz is partly in the Central and partly in the Atlantic region, and the species collected there may consequently belong to either fauna.

Species marked (N.A.) in the following list are such as are included in the fauna of the U.S., and, with a few exceptions, may be taken to be winter visitants to Guatemala.

Ordo I. INSESSORES.

Tribus I. Passeres*.

Subtribus I. *Oscines.*

Fam. I. TURDIDÆ.

1. Turdus grayii, Bp. P. Z. S. 1837, p. 118.

This species is resident throughout the higher districts, but is not found lower down than at an elevation of 4000 ft. It breeds commonly at Dueñas in the months of April and May, making a nest of roots, fibres and small twigs with a lining of dry grass and fine roots. The eggs, three in number, are more or less covered with spots and blotches of red-brown on a ground of pale bluish green, the spots being more concentrated at the obtuse end. They measure 1 inch 2½ lines in axis and 10½ lines in diameter.

---

* We agree very much with Mr. Wallace's views (Ann. Nat. Hist. 1856), who separates the great mass of *Insessores* into three groups—*Passeres,*

The song of *Turdus grayii* is very rich and of considerable compass, quite rivalling any of its congeners. It is a favourite cage-bird with the Spaniards, and enjoys the name of '*Sinzonte*' in common with all other thrushes.

2. Turdus leucauchen, Sclater, P. Z. S. 1858 (Nov. 9th).

Transmitted by Mr. Skinner. In the collections of P. L. S. and Mr. Gould.

3. Turdus infuscatus, Lafr. Rev. Zool. 1848, p. 3.

Transmitted by Mr. Skinner. In Sir William Jardine's collection.

4. Turdus rufitorques, Hartl. Rev. Zool. 1844, p. 214; Du Bus, Esquisses Orn. pl. 19 et 20.

It is only in the higher parts of the Cordillera that this species is found; it occurs on the northern spur of the Volcan de Fuego, near a small village called Calderas, at an elevation of about 7000 feet. At Las Gordinas, in the Altos of Guatemala, and about the lofty hills that surround the Lake of Atitlan, it is tolerably numerous. In short, wherever the evergreen oaks attain their maximum growth, *T. rufitorques* may be found.

5. Turdus mustelinus (Gm.). (N. A.)

Transmitted by Mr. Skinner.

6. Turdus swainsoni (Cab.). *Turdus olivaceus*, Brewer, Baird's Rep. p. 216. (N. A.)

Transmitted by Mr. Skinner.

7. Catharus melpomene (Cab.), Sclater, P. Z. S. 1858, p. 97.

Transmitted by Mr. Skinner.

Fissirostres, and *Scansores*. The Passeres we divide, according to Müller's views, into *Oscines* and *Tracheophonæ*, the latter group passing on towards the *Fissirostres*.

8. Malacocichla dryas, Gould, P. Z. S. 1854, p. 285, pl. 97.

The Department of the Vera Paz alone seems to produce this species, of which examples were first transmitted by Mr. Skinner. (Mus. Brit.)

9. Malacocichla mexicana, Bp. Compt. Rend. xliii. p. 998.

Transmitted by Mr. Skinner. Also in the Derby Museum and the collection of the Philadelphian Academy, from Coban (Delattre).

10. Melanoptila glabrirostris, Sclater, P. Z. S. 1857, p. 275.

Omoa, Honduras (Leyland). Mus. Brit., Derb., et P. L. S.

11. Galeoscoptes carolinensis (Linn.). *Turdus felivox*, Vieill. (N. A.)

At Belize this bird occurs, but sparingly; it is also found in Guatemala, but is probably restricted in its range to the northern coast.

12. Melanotis hypoleucus, Hartlaub, Rev. Zool. 1852, p. 460.

About Dueñas this Mock-bird is very common, frequenting the thick bushes and underwood. It is shy, and eludes observation by skulking rather than by open flight. Its song in February is short and disjointed, but towards the breeding season it improves in quality. The food of *M. hypoleucus* consists chiefly of berries; but, as it is also often to be observed searching about the roots of trees and amongst dead leaves, insects and their larvæ may probably be included. This species forms a very slight nest, using small twigs for its construction with a lining of fine roots. The structure is usually placed in a thick bush about 9 or 10 feet from the ground. The eggs are laid about the end of May, and are three in number, rather elongated in form and uniform greenish blue in colour. They measure, axis 1 inch 2 lines, diam. 9½ lines.

13. Mimus gracilis, Cab. Mus. Hein. p. 83.

This bird seems to have a universal range over the whole Republic, including British Honduras. Skins from Belize and from Salamá, in the Department of Vera Paz, present no differences. It is a favourite cage-bird with the Spaniards. Its food is principally berries.

Fam. II. SYLVIIDÆ.

14. Sialia wilsoni (Sw.). (N. A.)

"*El azulejo.*" It is only in the more open districts of the elevated region that this Blue-bird is found; in such localities, however, it is numerous.

Some Guatemala skins of this species are very pale below, on the belly quite white. Others are intermediate between this and the deep red of the more northern bird. We have not observed the same variation in Mexican examples.

15. Regulus calendula (Linn.). (N. A.)

Transmitted by Mr. Skinner.

Fam. III. TROGLODYTIDÆ.

16. Campylorhynchus capistratus (Less.). *Picolaptes capistratus,* Des Mur, Icon. Orn. pl. 63.

Often transmitted from Belize and Honduras.

17. Thryothorus rufalbus, Lafr. Rev. Zool. 1845, p. 337; Sclater, P. Z. S. 1856, p. 140.

This Wren is tolerably numerous and a resident at Dueñas. It is to be found in moderately thick forest, but seems rather to seek single trees of dense foliage than thickly grown underwood.

18. Cistothorus elegans, sp. nov.

Suprà murino-brunneus, nigro transversìm obsolete fasciatus; capitis antici et interscapulii plumis nigris, striâ mediali distinctâ sordidè albâ ornatis: alis et caudâ fasciis alternis pallidè brunneis et nigris extus notatis: primariorum pogoniis internis pallidè nigricanti-cinereis: caudâ nigrâ; rectricum lateralium pogonio externo et pogonii interni parte terminali pallidè fulvis, maculis quadratis nigris variegatis: subtùs ochracescenti-albidus, unicolor, gutture dilutiore, ferè albo, lateribus et crisso paulò saturatioribus: rostro superiore fusco, inferiore cum pedibus pallidè flavidis: long. tota 4·30, alæ 1·75, caudæ 1·75, rostri à rictu ·6, tarsi ·7.

A single specimen only was shot by Salvin amongst the rushes on the banks of the lake of Dueñas, where it appeared to be scarce.

This apparently hitherto unnoticed Wren rather resembles the N. American *Cistothorus brevirostris*, but is much larger in dimensions and more distinctly marked.

19. Troglodytes aedon (Vieill.). (N. A.)

Undoubted examples of this bird have been transmitted by Mr. Skinner; but it is uncertain whether this agrees with the common wren at Dueñas, specimens of which were not collected.

Fam. IV. ALAUDIDÆ.

20. Anthus ludovicianus (Gm.). (N. A.)

A small flock of about twelve were seen in the open land near Dueñas, about the middle of February. They were apparently on passage, and did not remain.

Fam. V. PARIDÆ.

Subfam. Polioptilinæ.

21. Polioptila mexicana (Bp.). *Culicivora mexicana*, Bp. Consp. p. 316 ?

This bird is not uncommon at Dueñas, frequenting low bushy trees. It seems to extend its range through a great variety of temperature, as a single individual was seen in the month of February 14,000 feet above the level of the sea, on the summit of the Volcan de Agua. It does not remain to breed.

Specimens from Guatemala agree with those collected by M. Sallé in the State of Vera Cruz. They are much more cinereous than *P. cærulea* of N. America, and have no appearance of a frontal band in either sex. It is not yet certain whether they are anything more than *P. cærulea* in winter plumage.

Fam. VI. MNIOTILTIDÆ.

Subfam. Siurinæ.

22. Siurus auricapillus (Gm.). (N. A.)

Numerous examples of this species have been forwarded through Mr. Skinner from the Vera Paz. It occurs but very sparingly at Dueñas in the month of February.

23. SIURUS NOVEBORACENSIS (Gm.). (N. A.)

Just outside the town of Belize, and beyond that part called Yarborough, this is a very common bird in the month of December.

Subfam. MNIOTILTINÆ.

24. MINOTILTA VARIA (Linn.). (N. A.)

At Belize, as well as throughout the more elevated portions of Guatemala, this bird is found; it seems to be pretty equally and generally spread over the whole country. It is migratory at Dueñas, leaving that district in the spring.

25. PARULA AMERICANA (Linn.). (N. A.)

Transmitted by Mr. Skinner.

26. PARULA SUPERCILIOSA (Hartl.). *Conirostrum superciliosum,* Hartl. Rev. Zool. 1844, p. 215; Sclater, P. Z. S. 1858, p. 299.

Originally described from Guatemalan specimens by Dr. Hartlaub.

27. GEOTHLYPIS TRICHAS (Linn.). (N. A.)

This is perhaps the commonest species of the *Mniotiltidæ* about Dueñas, but like all the rest is migratory. It is usually to be found in the neighbourhood of water, and frequents the reeds surrounding the Lake of Dueñas, and the bushes on the banks of its outlet to the River Guacalate.

28. GEOTHLYPIS MACGILLIVRAYII (Aud.). *Sylvia tolmiæi,* Townsend. (N. A.)

Throughout the district lying between the Volcanos of Agua and Fuego this species is by no means uncommon, frequenting the outskirts of the forest and the edges of the clearings. The distinctive marks over and under the eye, by which *G. macgillivrayii* is distinguished from *G. philadelphica,* are very apparent in a living or freshly-shot bird.

29. OPORORNIS FORMOSA (Wilson); Baird, Report, p. 247. (N. A.)

Transmitted by Mr. Skinner.

30. Helmitherus vermivorus (Lath.); Baird, Rep. p. 252. (N. A.)

Transmitted by Mr. Skinner.

31. Helminthophaga pinus (Linn.); Baird, Rep. p. 254. (N. A.)

Transmitted by Mr. Skinner.

32. Dendroica virens (Gm.). (N. A.)

This species occurs but sparingly at Dueñas, where it is a winter visitant. Specimens also have been transmitted by Mr. Skinner and by Señor Constancia.

33. Dendroica townsendii, Baird, Rep. p. 269. (N. A.)

D. townsendii is also a winter visitant at Dueñas, and though more frequently met with than *D. virens*, is by no means abundant.

34. Dendroica coronata (Linn.). (N. A.)

This bird frequents the more open districts about Dueñas, preferring scattered bushes to the denser underwood. It is an abundant species, especially between Dueñas and the village of Alotenango, in the winter season.

35. Dendroica blackburniæ (Gm.). (N. A.)

Transmitted by Mr. Skinner and Señor Constancia.

36. Dendroica castanea (Wilson). (N. A.)

37. Dendroica æstiva (Gm.). (N. A.)

38. Dendroica maculosa (Gm.). (N. A.)

Specimens of all these three Wood-warblers have been transmitted by Mr. Skinner.

39. Myiodioctes mitratus (Gm.). (N. A.)

Transmitted by Mr. Skinner. Also collected by Capt. Taylor near Comayagua (see P. Z. S. 1858, p. 358).

40. Myiodioctes pusillus (Wils.). (N. A.)

A common migratory species at Dueñas, where it is only found during the winter season.

41. Myiodioctes canadensis (Linn.). (N. A.)

Transmitted by Mr. Skinner.

42. SETOPHAGA RUTICILLA (Linn.). (N. A.)

At Belize this species occurs in the winter.

43. SETOPHAGA PICTA (Sw.).

Transmitted by Mr. Skinner.

44. SETOPHAGA FLAMMEA, Kaup, P. Z. S. 1851, p. 49. *S. intermedia,* Hartl. R. Z. 1852, p. 5.

Transmitted by Mr. Skinner and Señor Constancia. Distinct from the Mexican *Setophaga miniata.* The specimen from Guatemala described in Baird's Report (p. 299) without doubt belongs here.

Fam. VII. VIREONIDÆ.

Subfam. ICTERIINÆ.

45. ICTERIA VELASQUEZI, Bp. P. Z. S. 1837, p. 117.

We rather doubt the distinctness of the southern specimens of *Icteria* from those of the United States (*I. polyglotta* and *I. longicauda*), and believe they may be referred to the winter dress of the latter.

Subfam. VIREONINÆ.

46. VIREOSYLVIA OLIVACEA (Linn.); Baird's Rep. p. 329. (N. A.)

Transmitted by Mr. Skinner.

47. VIREOSYLVIA FLAVO-VIRIDIS, Cassin, Pr. Ac. Sc. Philad. (1851) v. p. 152, pl. 11; Baird, Rep. p. 332.

In coll. P. L. S., received from Don José Constancia.

48. VIREOSYLVIA PHILADELPHICA, Cassin, Pr. Ac. Sc. Philad. v. p. 153. pl. 10. fig. 2; Baird, Rep. p. 335. (N. A.)

In coll. O. S. received from Mr. Skinner.

49. VIREO FLAVIFRONS, Vieill.; Baird, Rep. p. 341. (N. A.)

Transmitted by Mr. Skinner.

50. VIREOLANIUS PULCHELLUS, sp. nov.

Lætè psittaceo-viridis: pileo cyaneo: gutture flavo: formâ et staturâ *Vireolanii icterophryos.*

A single specimen of this beautiful bird is in the British Museum, received from Mr. Skinner through Mr. Gould.

51. Cyclorhis flaviventris, Lafr. Rev. Zool. 1842, p. 133.

Transmitted by Señor Constancia and Mr. Skinner.

Fam. VIII. HIRUNDINIDÆ.

52. Hirundo horreorum, Barton; Baird, Rep. p. 308. (N. A.)

This species, or one very closely resembling it, was observed by Salvin near Dueñas, in April 1858.

53. Petrochelidon bicolor (Vieill.). (N. A.)

Transmitted by Mr. Skinner. In Mr. Gould's collection.

54. Petrochelidon thalassina, Sw. Phil. Mag. 1827, p. 365. (N. A.)

Early in March great numbers of this beautiful species occur near Dueñas, where they remain but for a short time; during that time they are to be found flying over the open land to the south of the lake.

55. Atticora pileata, Gould, P. Z. S. 1858, p. 355.

Transmitted by Mr. Skinner.

56. Cotyle serripennis (Aud.). (N.A.)

In a gorge on the River Guacalate this Swallow is especially abundant, but it is also found elsewhere about Dueñas. Greater numbers appear in the winter months, but a few are to be found all through the year.

57. Progne dominicensis (Gm.).

A skin, transmitted by Mr. Skinner, seems to agree most nearly with this species.

Fam. IX. AMPELIDÆ.

Subfam. Ampelinæ.

58. Ampelis cedrorum, Vieill. (N. A.)

Transmitted by Mr. Skinner, and said to be an occasionally abundant winter visitant. *Bombycilla mariæ*, Coinde (Grenoble, 1857), seems to be nothing more than this bird.

Subfam. Ptilogonydinæ.

59. Ptilogonys cinereus (Sw.).

Transmitted by Señor Constancia to the late Mr. Strickland; and also in Mr. Skinner's series.

60. **Myiadestes obscurus**, Lafr.

Every wooded ravine in the elevated region resounds with the strange song of this bird, which, from its remarkable character, has procured for the songster the title of '*Guarda barranca*.' The notes have a metallic ringing in their tone, and though peculiar, are extremely soft in their cadence. It is a bird that, of all others, when once heard and known, associates itself with all that is beautiful in the grand mountain-scenery of Guatemala. Deservedly this is a favourite cage-bird with the Spanish ladies, and few houses are without it.

Fam. X. CŒREBIDÆ.

61. **Cœreba lucida**, sp. nov.

Affinis *C. cæruleæ* ex Cayennâ, et rostro simillimo, sed colore cæruleo-viridescente, gulâ media usque ad pectus nigrâ, alis et tarsis longioribus distinguendâ. Long. alæ 2·4.

Numerous specimens transmitted by Mr. Skinner seem to agree in the above distinctions.

62. **Chlorophanes atricapilla**, Vieill. ?

Transmitted by Mr. Skinner. We have not yet had an opportunity of comparing this with southern specimens.

63. **Diglossa baritula**, Wagl. Isis, 1832, p. 281 ; Gray & Mitch. Gen. pl. 42.

Transmitted by Señor Constancia and Mr. Skinner.

Fam. XI. TANAGRIDÆ.

64. **Saltator atriceps** (Less.). *Arremon giganteus*, Bp. P. Z. S. 1837, p. 117 ; Sclater, P. Z. S. 1858, p. 358. *Pyrrhula raptor*, Cabot.

Comayagua, Honduras (*Taylor*): common in Yucatan (*Cabot*).

65. **Saltator magnoides** (Lafr.).

Transmitted by Mr. Skinner.

66. **Saltator grandis** (Licht.); Sclater, P. Z. S. 1856, p. 72.

Transmitted by Mr. Skinner in the state described as adult. Specimens procured at Dueñas are all in the stage described by Lafresnaye as *S. icterophrys*, and may perhaps, after all, turn out to be distinct. It is there not uncommon, frequenting the thick bushy underwood. Its food consists principally of small fruits and berries.

67. Buarremon brunneinuchus (Lafr.).
Transmitted by Mr. Skinner.

68. Buarremon chrysopogon, Bp., Sclater, P. Z. S. 1856, p. 86.
Transmitted by Mr. Skinner, showing that the locality given in the Paris Museum (California) is wrong.

69. Lanio aurantius, Lafr. Rev. Zool. 1846, p. 204.
Procured in Honduras by Dyson. Mus. Brit.

70. Phœnicothraupis rubicoides (Lafr.).
Transmitted by Señor Constancia and by Mr. Skinner.

71. Pyranga æstiva (Gm.). (N.A.)
This bird enjoys an almost universal range throughout the Republic of Guatemala. It occurs in December, at the mouth of the Rio Dulce, in the pine-ridges near Quirigua, and in fact along the whole road from the port of Izabal to the city of Guatemala, a distance of about 80 leagues. At Dueñas *P. æstiva* is common, occurring during the winter months.

72. Pyranga hepatica (Sw.); Sclater, P. Z. S. 1856, p. 24.
Transmitted by Mr. Skinner.

73. Pyranga ludoviciana (Wilson). (N. A.)
P. ludoviciana occurs near the village of Alotenango, situated between the Volcanos of Agua and Fuego, at an elevation of about 5000 feet, but is anything but a common species. Specimens also have been sent from the Vera Paz.

74. Pyranga erythromelæna (Licht.).
P. erythromelæna is common on the Pacific coast in the month of March, and occurs abundantly near Santa Lucia, a village distant about 12 leagues from Escuintla. It is also found in the Vera Paz.

75. Pyranga roseogularis, Cabot, Bost. Journ. Nat. Hist. v. p. 416; Sclater, P. Z. S. 1857, p. 6.
Discovered in Yucatan by Dr. Cabot.

76. **Ramphocelus passerinii**, Bp.; Sclater, P. Z. S. 1856, p. 130.

It is on the eastern sea-board, and not on the southern slope of the Cordillera, that *R. passerinii* occurs. At Izabal, the port of Guatemala, on the Gulf of Dulce, it is tolerably numerous. Skins also have been sent from Cajabon in the Department of the Vera Paz. This bird is readily distinguishable from the New Grenadian *R. flammigerus* by its smaller size.

77. **Ramphocelus sanguinolentus** (Less.), Cent. Zool. pl. 39.

This magnificent species is found on the hot sea-board of the Bay of Honduras. Mr. Dyson obtained specimens on the Chamalican River.

78. **Tanagra diaconus** (Less.).

Transmitted by Señor Constancia.

79. **Tanagra vicarius** (Less.), Cent. Zool. pl. 68 (1830). *Tanagra abbas*, Licht. Preis-Verz. 1831.

This Tanager is resident, but not very numerous, at Dueñas. It has also been sent from the Vera Paz. In the month of May it builds a compact nest, composed of small twigs with a little wool, and lined with a few pieces of dead flag, fine roots, and horsehair. The nest, usually in a cypress or other thick-growing tree, is placed on the upper part of a branch, and about ten or twelve feet from the ground. The eggs, three in number, are spotted or blotched with three shades of reddish brown on a pale bluish-grey ground. Axis 10½ lines, diam. 8 lines.

80. **Calliste larvata**, Du Bus.

Procured by the late Mr. Dyson during his voyage up the Chamalican River, but appears to be scarce.

81. **Euphonia elegantissima** (Bp.). *Pipra elegantissima*, Bp. P. Z. S. 1837, p. 112.

Procured in Guatemala by Col. Velasquez de Leon.

82. **Euphonia affinis** (Less.), Sclater, P. Z. S. 1856, p. 274.

83. **Euphonia hirundinacea**, Bp. P. L. S. 1837, p. 117; Sclater, P. Z. S. 1856, p. 278.

The specimens whence Prince Bonaparte took his description were procured in Guatemala by Col. Velasquez de Leon: Señor Constancia has also transmitted examples.

84. Euphonia gouldi, Sclater, P. Z. S. 1857, p. 66. pl. 124. Transmitted by Mr. Skinner.

85. Chlorophonia occipitalis (Du Bus), Sclater, P. Z. S. 1856, p. 270.

Transmitted by Mr. Skinner. In Sir William Jardine's collection.

Fam. XII. FRINGILLIDÆ.

86. Hedymeles ludovicianus, Linn. (N. A.)

It would appear that this bird is abundant in the Vera Paz, as numbers of skins have been transmitted by Mr. Skinner. It does not occur at Dueñas, but is a common cage-bird in the city of Guatemala.

87. Spermophila moreletii, Bp. Consp. p. 497.

This bird was originally discovered near the lake of Peten by M. Morelet, and was described from his specimens in the Paris Museum by Prince Bonaparte. It is not an uncommon species about Dueñas, where it is generally to be found amongst the tall reeds on the edge of the lake. It occurs also at Belize.

88. Volatinia jacarina (Linn.), Sclater, P. Z. S. 1856, p. 305.

Transmitted by Señor Constancia. Whether this is the true *jacarina* must remain doubtful, until the several species confounded under that name are worked out. The present bird has white feathers on the bend of the wings above, and the under-coverts black.

89. Cyanospiza ciris (Linn.); Baird, Rep. p. 503. (N. A.)

Though of rather unfrequent occurrence at Dueñas, this bird is abundant on the Pacific coast, evidently preferring the hot to the more temperate districts. Capt. Taylor procured a specimen at Comayagua, in the centre of the State of Honduras. See P. Z. S. 1857, p. 358.

90. Cyanospiza versicolor (Bp.).

Transmitted by Mr. Skinner. Mus. Brit.

91. CYANOSPIZA CYANEA (Linn.). (N. A.)

This is a winter visitant at Dueñas, where it cannot be said to be abundant. Mr. Skinner having transmitted many skins, it may be supposed to occur more frequently in other parts.

92. ZONOTRICHIA PILEATA (Bodd.). *Z. matutina,* auct.

Quite an abundant species and resident at Dueñas and on the plain of Antigua Guatemala, where it may constantly be seen about the '*nopal*' (*Cactus cochinellifer*) in the cochineal plantations, and the mud walls surrounding them. The bird builds a nest outwardly of strong grass roots and small twigs, and inwardly of horse-hair. The eggs, two in number, are spotted or blotched with deep red on a pale bluish-green ground. They measure, axis 10 lines, diam. 7½ lines.

93. PASSERCULUS LINCOLNI (Aud.).

This species was found about the reeds on the margin of the lake in February, but it is not common.

94. PYRGISOMA BIARCUATUM (Lafr.), Voy. Venus, Ois. pl. 6; Bp. Consp. p. 486. *Atlapetes rubricatus,* Cab. Mus. Hein. p. 140.

This species is not uncommon about Dueñas, and is resident. It frequents the thick underwood, but is generally found near the more open and cultivated districts. It builds a very deep nest composed of dead leaves and sticks, with a few horse-hairs inside. This structure is placed in a low bush about 5 or 6 feet from the ground. The eggs, two in number, are closely but distinctly spotted with red on a ground of creamy white; they measure, axis 1 inch, diam. 8¼ lines. It seems very doubtful whether the genus *Pyrgisoma* can be held to be really distinct from Wagler's *Atlapetes.*

95. COTURNICULUS PASSERINUS (Wilson). (N. A.)

Transmitted by Señor Constancia and Mr. Skinner.

96. HÆMOPHILA RUFESCENS (Sw.).

Transmitted by Mr. Skinner. Mus. Brit.

97. EUSPIZA AMERICANA (Gm.). (N. A.)

Transmitted by Mr. Skinner.

98. Coccothraustes abeillii (Less.). *Guiraca abeillii,* Less. Rev. Zool. 1839, p. 41.

Mr. Gould has received an example of this beautiful bird from Mr. Skinner.

99. Chrysomitris mexicana (Sw.).

Transmitted by Señor Constancia to Mr. Strickland. In coll. P. L. S.

Fam. XIII. ICTERIDÆ.

Subfam. Agelæinæ.

100. Agelæus phœniceus (Linn.).

The females of this species congregate in large flocks near the lake of Dueñas, feeding about the swampy grass on the edge of the water. The males are always separate, and generally to be seen on a single twig of a bush or low tree, uttering their monotonous cry. At Dueñas they are resident all the year round, and build in the reeds that surround the lake, deferring the period of incubation till the month of June.

101. Sturnella hippocrepis, Wagl. (?)

Not only at Dueñas, where it is common about the open land, but through all the open plains of the higher region, is this bird found. At the former place it is most abundant in the winter months, but some few pairs remain to breed.

Subfam. Icterinæ.

102. Cacicus montezumæ (Less.) Cent. Zool. pl. 7.

Procured by Capt. Taylor at Taulevi, Honduras: seen once at Iguana near Izabal, in the Atlantic coast-region.

103. Ocyalus wagleri, Gray and Mitch. Gen. of B. pl. 8.

Transmitted by Mr. Skinner from Cajabon, Vera Paz.

104. Cassiculus prevosti (Less.).

Occurs sparingly at Dueñas. Is generally seen in the thick trees, where it seems to employ itself in breaking the dead twigs, and so attracts attention by the sound.

105. Icterus gularis (Wagl.).

Transmitted by Mr. Skinner from the Vera Paz, and collected by Capt. Taylor near Comayagua, Honduras (P. Z. S. 1858, p. 358).

106. Icterus pectoralis (Wagl.).

Also from the Vera Paz (Mr. Skinner).

107. Icterus giraudi, Cassin.

Confer P.Z.S. 1857, p. 227. Transmitted by Mr. Skinner.

108. Icterus cucullatus (Sw.).

A single specimen, apparently referable to this species, was shot in December at Belize, where it is known by the name of the "Banana-bird," a title doubtless common to all the genus. It differs from Mexican specimens in having the black extending above and behind the eye, and it will be necessary to make further comparisons.

109. Icterus wagleri, Sclater, P. Z. S. 1857, p. 7.

This is the only one of the genus found about Dueñas, where it is not uncommon.

110. Icterus prosthemelas, Strickland, Contr. Orn. 1850, p. 120. pl. 62.

A close ally of the preceding. Transmitted by Mr. Skinner.

111. Icterus baltimorensis (Linn.), Bp. P. Z. S. 1837, p. 116.

Transmitted from the Vera Paz by Mr. Skinner.

112. Icterus affinis, Lawrence.

This small variety of the Orchard Oriole has been transmitted by Mr. Skinner. Prof. Baird does not consider it truly distinct from *I. spurius*.

113. Quiscalus macrurus (Sw.).

This species plays the part of the sparrow in Guatemala, and seeks the abode of man as that familiar bird does in Europe. It frequents the larger towns as well as the villages. Its favourite resort is the stable, where it scratches for its food among the ordure of the horses; sometimes perching on the backs of these animals and ridding them of their ticks; and now and then flying on to the manger and picking up stray grains of maize. It breeds in societies at Dueñas, selecting the willows that grow near the lake and the reeds on its banks for its nests.

The breeding season seems to extend over some length of time, and in the month of May young birds and fresh eggs may be found in nests in the same tree. On the coast, young ones nearly capable of flying were seen in the early part of March. The nest is usually made of grass and placed among thin upright branches, the grass being entwined round each twig to support the structure. The number of eggs seldom exceeds three; they are curiously marked with black spots on a bluish-grey ground. They measure, axis 1 inch 4 lines, diam. 11½ lines.

Capt. Taylor procured specimens of this bird near Comayagua.

Fam. XIV. CORVIDÆ.

Subfam. Corvinæ.

114. Corvus cacalotl, Wagler: Bp. P.Z.S. 1837, p. 115?

A true Raven occurs tolerably abundantly about the plains of Chimaltenango, at an altitude of 6000 feet. It sometimes descends to Dueñas, but rarely. It was also once observed near the village of Estansuelas, on the entrance to the plain of Zacapa. Specimens have not yet been obtained, and it is only doubtfully referred, following Bonaparte, to *Corvus cacalotl* of Wagler.

115. Cyanocitta melanocyanea, Hartlaub, Rev. Zool. 1844, p. 215; Bp. Consp. p. 378.

Throughout the wooded parts near Dueñas this Jay is common, and the only species. It is resident all the year, breeding in the months of April and May. It makes a loose nest of small twigs, and lays four eggs of a brick-red colour, spotted and blotched with a darker shade of the same. They measure, axis 1 inch 3 lines, diam. 10½ lines.

116. Cyanocitta ornata (Less.).

Transmitted by Mr. Skinner's collector from Cajabon. Also extends to Honduras.

117. Cyanocitta pumilo, Strickl. Contr. Orn. 1849, p. 122, pl. 33; Bp. Consp. p. 378.

Originally described from specimens transmitted by Señor Constancia. It is perfectly distinct from the Mexican *Cyanocitta nana*. See P. Z. S. 1857, p. 204.

118. Cyanocorax guatemalensis, Bp. Consp. p. 380.

Also from Cajabon and Honduras.

119. Cyanurus coronatus (Sw.). *Garrulus coronatus*, Sw. Phil. Mag. 1827, p. 437; Sclater, P. Z. S. 1858, p. 359.

Transmitted by Señor Constancia. Observed in the barranco of Los Chocoyos, in the Altos of Guatemala.

120. Calocitta formosa (Sw.). *Cyanurus bullockii*, Bp. P. Z. S. 1837, p. 115.

Found abundantly on both the Atlantic and Pacific coast-regions, but never ascends to the central region.

121. Psilorhinus morio (Wagl.).

Occurs on the eastern coast between Quirigua and Iguana, on the road to Guatemala.

[To be continued.]

II.—*Notes on Birds observed in Southern Palestine, in the months of March and April* 1858. By the Rev. H. B. Tristram, F.L.S.

There is, perhaps, no country frequented by travellers whose Fauna is so little known as that of Palestine. This may arise partly from the more absorbing associations of sacred and historical interest, which are of themselves more than sufficient to occupy the attention during the short period usually allotted to a tour in Palestine; and partly from the extreme difficulty and even danger of pursuing researches in a region so unsettled and lawless.

The following list makes no pretension to anything like completeness, as ornithology was by no means the principal object of the writer's expedition, and the districts most abounding in birds, as the Lebanon, the upper waters of the Jordan, and the wooded regions of Northern Palestine, were not visited by him at all.

It is put forth rather in the hope that the fact of so many rare and interesting species having been observed in so short a time, may induce succeeding travellers to endeavour to supply that which, up to the present time, is a desideratum in our knowledge of geographical ornithology.

1. GYPAËTOS (BARBATUS ?).

The Lammer Geyer was several times observed sailing over the high mountain-passes west of the Jordan; but as no specimen was obtained, it cannot be decided whether it was the *Gyp. barbatus,* or the variety or species, *Gyp. nudipes,* with the lower part of the tarsus bare.

2. GYPS FULVUS.

Common in all the hill-country of Judæa, and observed breeding in some ravines near the Dead Sea, and also between Jerusalem and Jericho.

3. NEOPHRON PERCNOPTERUS.

Universally distributed, and equally abundant in the plains of Sharon and the naked hill-district of the south. Breeds in great numbers in the valley of the Kedron, heaping up its enormous nest of sticks, rubbish, and old rags, on every convenient ledge. While the adult bird was to be seen through the whole country, I never observed a single specimen in the sombre livery of youth. One very fine bird paid the penalty of its curiosity, while we were sitting on a rock, at luncheon, on the road from Jerusalem to Jericho. It made several swoops as though anxious to share our chicken, and hovering over us, fell dead at a discharge of No. 7 shot.

4. AQUILA CHRYSAËTOS.

Not uncommon. One sitting on a loose rock permitted me to approach near enough to ascertain its species.

5. AQUILA NÆVIA.

One bird was shot. It appears to be the commonest species in the rocky districts.

6. AQUILA HELIACA.

I believe I saw this bird perched on a little island on the north side of the Dead Sea. I was not able to obtain a specimen.

7. CIRCAËTOS GALLICUS.

Noticed preying on large lizards on the hills near Bethlehem.

Several individuals in the same neighbourhood. From the immense numbers of reptilia in the country, this Eagle is probably generally distributed.

8. Milvus ater.

Universally present about the towns and villages, hanging over the poultry, but apparently leaving them unmolested for the sake of the offal and garbage.

9. Milvus parasiticus.

Not so common, and apparently preferring the wooded districts. I have noticed the same distinction in the habits of these two species in North Africa.

10. Falco lanarius?

On one occasion, while riding with an Arab guide, I observed a falcon of large size rise close to us. The guide, when I pointed it out to him, exclaimed, "*Taïr Sakqr.*" *Taïr*, the Arabic for "bird," is universally throughout North Africa and the East applied to those falcons which are capable of being trained for hunting, *i. e.* "the bird" *par excellence.* *Taïr el Hohr*, "the noble bird," is the common appellation of the Peregrine and its congeners. "*Sakqr*" I have only heard applied to the very large falcons—never to the *F. peregrinus* or *F. punicus*, both of which are trained by the Arabs for the chase. No doubt our specific name "*Falco sacer*" is derived, not from a Latin source, but from the Arabic trivial name of the species. There seems as yet much confusion in the nomenclature of the different larger species or races, which to the south and east of the Mediterranean take the place of the *F. grœnlandicus*, *islandicus*, and *norvegicus* of the North. The bird which I saw was nearly as large as a Jer Falcon, and had a very bright rufous head, the light colour extending to the back of the neck. How far *F. sacer*, *lanarius*, *cervicalis*, *biarmicus*, and *cherrug*, are distinct species, and what is the geographical range of each, seems a question well-worthy the investigation of naturalists travelling in the East.

11. Falco peregrinus.

I saw either this species, or one closely resembling it, on the rocks near Cæsarea.

12. Hypotriorchis subbuteo.

Several Hobbies were seen, and one shot, in the wooded district not far from Ladrone, near the ancient Bethoron.

13. Hypotriorchis eleonoræ.

Though not noticed by me in the country itself, a very fine specimen, in the rich brown-black plumage of the adult, perched one afternoon on the mast-head of our yacht, not far from the coast. A general gun-cleaning was, fortunately for his life, going on at the moment, and he winged his way just as a piece had at length been put together. In the evening, about two hours afterwards, he returned, at least I presume it was the same, but only paused for a few minutes in the fore-rigging, when he went off towards land.

14. Tinnunculus alaudarius.

Universally distributed and extremely abundant. Large colonies breed in ruined towers in company with the succeeding species.

15. Tinnunculus cenchris.

Gregarious about the ruins in the plain districts. About fifteen or twenty pairs were building their nests in and about the beautiful tower of Ramleh (*Arimathea*) in company with a still larger number of the common Kestrel, and flew screaming round me, as I climbed the still perfect staircase of the tower. It was interesting to watch them in the evening sweeping like swallows over the fields, or threading their way up and down the lanes fenced with prickly pear, in pursuit of the *Scarabæi* on which they were feeding, seizing them with their claws on the wing, and as they sailed by me, picking off with their beaks the *elytra* of their prey, and dropping them almost at my feet. Though I have never found the lesser Kestrel either in Asia or Africa except in company with the common species, yet it seems to be without the power of adaptation possessed by its congener, confining itself to old towers and rocks, and living always in communities more or less numerous. I obtained some beautiful specimens at Ramleh. There is a still larger colony about the old ruined English church of Lydda, over the reputed tomb of "St. George of merrie England."

16. Erythropus vespertinus.

A few pairs were seen among the large terebinth-trees near the foot of the hills of Judæa. They seem to roost and build there, feeding only in the plains, over which they hover, resembling rather the Kestrels in their habits and flight than the Hobby.

17. Micronisus gabar.

Once seen, on a hill-side to the south of Bethlehem, preying on a large lizard.

18. Circus ——?

We noticed Harriers several times skulking over the plains, but, not having obtained specimens, cannot state the species. The Marsh Harrier was not observed.

19. Athene meridionalis.

Extremely common in all the hill country and plains alike. Frequently one would be seen by the side of a mountain-path, on a bare rock, selecting the most conspicuous position, and remaining there until we came close up, and then leisurely removing to another spot some twenty yards off. Seldom could we ride for an hour in any part of the country without noticing this comical little fellow. Mount Olivet is one of his favourite resorts.

20. Scops zorca.

Frequently heard, and once obtained. It seems to inhabit the Mosque of Omar at Jerusalem, and prefers the neighbourhood of man to the wilder portions of the country.

21. Strix flammea.

I started this bird once in the daytime from a thicket of trees on the banks of the Jordan.

22. Cypselus apus.

We saw a few Swifts, as we were leaving Jaffa, in April, but had not observed them before in the interior. Probably they were not then returned from their southern migration.

23. Cypselus melba.

We observed several pairs apparently commencing the business of nidification near Mar Saba, and again in the tremendous ravine above the site of Jericho.

24. Cotyle riparia.

Abundant in the sandy banks on the left side of the Jordan. I may mention in passing that I have found the Sand Martin breeding in Egypt in February. Is it not, therefore, probably double-brooded?

25. Cotyle rupestris.

The Rock Martin is not unfrequent in the barren gorges of the Kedron, near the Dead Sea, where I found it breeding at the end of March, and obtained specimens. I have observed, both in the Atlas range and in Palestine, that it appears to be confined to mountain gorges, and that it is by no means gregarious, each pair keeping a range of territory to themselves, though the bird occurs from one end of the pass to the other.

26. Hirundo rufula, Temm.

Appears to be the Common Swallow of the Holy Land. I cannot be sure that I saw *H. rustica* at all, though possibly it might not yet have returned from the South.

27. Coracias garrula.

Seen occasionally in the olive-yards and wooded hill-sides.

28. Merops persicus.

In the valley of the Jordan. I think I also saw *Merops apiaster*, but I obtained no specimens.

29. Ceryle rudis.

One specimen seen near the Jordan.

30. Upupa epops.

Common about the towns and villages. Frequents dunghills, and is extremely tame and familiar. The Arabs have a superstitious reverence for this bird, which they believe to possess marvellous medicinal qualities, and call it "the Doctor." Its head is also an indispensable ingredient in all charms and in the practice of witchcraft.

31. Sitta syriaca, Ehrenb.

Few birds have interested me more than the Dalmatian Nuthatch. I had good opportunities of observing its habits in the south of the Morea in winter, and I encountered it again in the hill-country of Judæa. Unlike our species, it is confined to the most barren and rocky regions, and runs up and down the stones with wondrous agility, descending head downwards, and then, by a sudden bound, flying to the foot of the next rock, which it climbs, and runs down after the same fashion, searching the crevices as it goes, for small beetles, with which the stomachs of those I examined were filled. In summer and winter alike they were always in pairs, never (as *Sitta europæa*) in small flocks. The note is louder than that of our species, and much resembles the call of the Spotted Woodpecker.

32. TROGLODYTES EUROPÆUS.

Frequent.

33. ERYTHROPYGIA GALACTOTES.

Seen near the Jordan.

34. HIPPOLAIS SALICARIA.

In moist places near Jericho.

35. SALICARIA TURDOÏDES.

Among the reeds by the mouth of the Jordan.

36. PHYLLOPNEUSTE RUFA.

Generally distributed.

37. PHYLLOPNEUSTE BONELLII.

One specimen shot.

38. MELIZOPHILUS PROVINCIALIS.

Among the bushes on the dry hill-sides, in the most barren parts of the country.

39. SYLVIA SUBALPINA.

Shot on the wooded banks of the Jordan.

40. SYLVIA MELANOCEPHALA.

Frequent in gardens and olive-yards.

41. CURRUCA ORPHEA.

Several times met with in olive-yards and on wooded hill-sides throughout the country.

42. CURRUCA ATRICAPILLA.

Found in numerous flocks in the defiles opening on the Dead Sea. Had I not procured and brought home several specimens, I should have doubted its identity with our species, so different was the locality from its usual resorts here. Probably the birds were just then returning from their southern migration.

43. RUTICILLA TITHYS.

Frequent on the barren rocky hills.

44. SAXICOLA RUBICOLA.

Lower down the hills, among the low bushes.

45. SAXICOLA RUBETRA.

In the same localities as the preceding.

46. SAXICOLA SALTATRIX, Ménétries.

On the bare rocky hills. In habits and locality exactly like our Wheatear.

47. SAXICOLA EURYMELÆNA, Hempr. et Ehrenb.

Obtained in an olive-yard close to Bethlehem, where the bird is not uncommon. It is fond of perching on the top of a wall, and drops down noiselessly as danger approaches, with a silent flight skimming the ground till it rests again on a stone or clod at some little distance, where it remains jerking its tail until again disturbed.

48. SAXICOLA* —— ?

A pair shot at St. Helena's Well, not far east of Bethany. They had a nest in a hole of the wall over the well, containing four blue eggs thickly spotted with rusty brown.

49. DROMOLÆA LEUCURA.

I saw this bird, as I believe, to the south-east of Bethlehem, among the barren hills; but as I have obtained in the Sahara several specimens of a nearly allied species just described by Brehm as *Dromolæa leucopygia*, and did not obtain a specimen of the bird I saw in Palestine, the species must remain for the present doubtful.

50. PETROCINCLA SAXATILIS.

Frequent in the deep gorges of the Kedron.

---

* Mr. Tristram has submitted these specimens to my examination. The species appears to agree with *Saxicola lugens* of Licht., as figured in Temminck's Planches Coloriées, under the name *Sax. leucomela*.—ED.

51. Petrocincla cyanea.

Observed in every part of the country. Unlike the Rock Thrush, it was often seen perched on the half-ruined buildings of the Palestine towns and villages; and has been supposed by some to be "the sparrow that sitteth alone upon the house-top" of Scripture.

52. Ixos xanthopygius, Hempr. et Ehrenb. (*Ixos vallombrosæ*, Bp.)

This most interesting bird was found in all parts of the country, wherever there is wood or gardens, from Jaffa to the Jordan. In its skulking habits it exactly resembles the *Ixos obscurus* of Algeria, but its brilliant saffron vent renders it conspicuous among the bushes. The head and throat are of a deep black; and there is scarcely any perceptible difference between the sexes in plumage, but that the black on the head of the female is not quite so bright. It is the finest songster in Palestine, and has obtained the name of the Palestine Nightingale, which is well deserved, whether for the volume or the variety of its notes. It wants, however, the last two notes of the nightingale's song. On arriving at the banks of the Jordan long before sunrise, at 4 A.M., the thick jungle which fringes the river was alive with the cheery notes of these unseen musicians, who continued their concert until nearly noon.

53. Turdus merula.

Seen, but not obtained.

54. Turdus musicus.

In the olive-yards.

55. Crateropus chalybeus, Bp.

I obtained this rare bird in the open wooded district near Jericho, where it lives in small flocks of from six to twelve. It was interesting to observe how exactly, in its peculiar habits and note, it corresponds with its congener, *Crateropus numidicus*, with which I was most familiar in the Sahara. The unseen party keep up a perpetual chattering in a bush, something like the clamour of a flock of starlings. On your approach the noise is hushed, and, if possible, they steal away unseen on the other side to another thicket, where, as soon as they feel at a safe distance, the conversation recommences. They fly in an irregular line, never in a flock, and spreading their long tails, always alight at the foot of the bush or tree. They then climb to the top one after another, hopping from bough to bough (where is the only chance of getting a shot), and leisurely descend to the ground on the other side, taking care in retiring to keep the covering object in a straight line between their pursuer and themselves. I scarcely ever met with a more wary bird. They appear to be sedentary in all their localities, and there is no sexual distinction of plumage in either of the two species of the genus with which I am acquainted.

56. ANTHUS CAMPESTRIS.

Common in the higher plains and on the hills.

57. ANTHUS PRATENSIS.

Very abundant in the Plain of Sharon.

58. BUDYTES MELANOCEPHALA.

The only one of the genus I noticed. The head was of a deep black, and the white line behind the eyes very distinct. I saw a skin in Jerusalem, which I took to be that of *Budytes flava*.

59. MOTACILLA ALBA.

On the Plain of Sharon, beginning to assume its summer dress. Abundant.

60. PARUS MAJOR.

The Great Tit was the only species of the genus which I met with.

61. MUSCICAPA —— ?

I observed a Flycatcher repeatedly, but neglected to secure a specimen, and therefore cannot be certain whether it was *Musc. atricapilla* or *albicollis*, but I think the latter.

62. LANIUS MINOR.

In the neighbourhood of Jaffa.

63. LANIUS CUCULLATUS.

Seen only once near Kirjath-jearim.

64. Enneoctonus rufus.

The Woodchat is one of the commonest birds of Palestine, frequenting olive-yards and gardens.

65. Garrulus melanocephalus.

I found this splendid Jay in several localities where there was timber of sufficient size to afford it cover. My examples were shot by my friend Mr. J. L. Gibbs.

It is difficult to conceive how, with specimens in hand of the different species, the confusion of authors could have arisen as to *Garrulus glandarius* of Europe, *G. melanocephalus* of Asia and the Caucasus, and *G. cervicalis* of Algeria. The smaller size, the darker colouring, the black forehead, deep chestnut neck and collar, the lesser extent of the blue on the scapulars, and the very light brown outer tail-feathers of the Algerian bird, at once separate it from the others.

Garrulus melanocephalus has not only the rich black feathers extending to the nape of the neck, but has the forehead white instead of spotted, as in our species; while the black moustache is of twice the extent and breadth, the region behind the eyes is white instead of chestnut, the white on the throat extends much lower down, and the lower plumage is of a much lighter colour. It is probable, then, that the specimens quoted by Degland as from Syria have been Algerian skins passed off by the Paris dealers, my skins corresponding, as might have been expected, with the Caucasian bird described by Nordmann. My friend Colonel Drummond, who has frequently shot the Common Jay in Greece, remarks that he never found *Garrulus melanocephalus* in that country.

66. Amydrus tristramii, Sclater.

This handsome bird, which Mr. Sclater has done me the honour to name after me, and has described in the 'Annals of Natural History' for December 1858, I discovered in the gorge of the Kedron, not far from the Dead Sea. Several pairs were breeding in the rocks among the cells hewn out by the old monks of Mar Saba. In habits and manners they reminded me somewhat of the Grakles of North America, but seem a strictly desert bird. The species ought to be found at Petra, if anywhere. The male has but two notes, but those are of wonderful power and of the richest volume. The roll of his music is something like that of the Organ-bird of Australia, and makes the rocks resound. The nest is placed in inaccessible crevices of the cliffs, and the birds are bold and fearless, allowing a stranger to approach very near while continuing their song, then suddenly breaking off for an instant and renewing it the moment one stands still. The plumage of the female is much inferior in brilliancy to that of the male, but she has the same rich chestnut wings.

67. CORVUS CORAX.

Universally present.

68. CORVUS CORNIX.

Not uncommon.

69. PASTOR ROSEUS.

One specimen seen in an orange-grove at Jaffa.

70. STURNUS VULGARIS.

Large flocks feed in the Plain of Sharon.

71. CHLOROSPIZA CHLORIS.

Common in all the gardens throughout the country.

72. PETRONIA STULTA (Gm.).

Found everywhere on the bare stony hills, and frequenting the villages for food, but never observed among gardens or trees.

73. PASSER SALICICOLA, Vieill.

In vast numbers near Jericho.

74. PASSER CISALPINUS.

I believe that it is this variety which frequents the towns and villages, but unfortunately I did not preserve a specimen.

75. PASSER MONTANUS.

About Jerusalem.

76. FRINGILLA CŒLEBS.

Very common.

77. EUSPIZA MELANOCEPHALA.

In the brushwood on the hill-sides on the road from Ramleh to Jerusalem.

78. Carduelis elegans.

In flocks on the Plain of Sharon.

79. Linota linaria, Linn.

Common throughout the country.

80. Erythrospiza githaginea.

In the most desert portion of the rocky wilderness between Bethlehem and Hebron.

81. Emberiza miliaria.

Common on all the cultivated plains.

82. Emberiza hortulana.

Generally distributed.

83. Emberiza cæsia.

One of the most common birds of the more fertile districts of Palestine. Perched on the topmost bough of a shrub or tree, it continues its monotonous song throughout the day, and is to be seen on almost every bush. In its habits and actions it is very different from its Algerian congener, *Emberiza saharæ*, which it so nearly resembles in form and plumage, avoiding buildings, and not, as far as I am aware, perching on stones or walls. Its nest is placed near the ground in a low bush.

84. Galerida cristata.

Excessively abundant both in the plains and on the bare hills. It had reared its brood at the end of March in some instances.

85. Calandrella brachydactyla.

Common in the more barren districts.

86. Melanocorypha calandra.

In the Plain of Sharon.

87. Ammomanes isabellina.

Plentiful in the rocky deserts, especially near the Dead Sea.

88. Ammomanes —— ?

A smaller species, possibly the *Amm. elegans* of Brehm, with the dark bar on the extremity of the tail; but I was not able to preserve my specimen for want of time. In the same locality as the preceding.

89. Cuculus canorus.

I have heard this bird in Palestine, but did not obtain nor see it.

90. Columba œnas.

Several shot in woods near Jericho.

91. Columba livia.

In great numbers where there are rocks and water.

92. Turtur auritus.

Resorts to the orange-groves round Jaffa.

93. Turtur ægyptiacus.

One shot near Jericho, where the Arabs state it is common.

94. Columba —— ?

I saw several of a pigeon new to me near Jericho—decidedly smaller than the Stock Dove; but I was unsuccessful in my endeavours to obtain a specimen.

95. Pterocles —— ?

The only Sand-grouse I met with were a small flock to the west of the Dead Sea. They were neither *Pt. arenarius* nor *Pt. setarius*, and seemed to me to be *Pt. exustus*.

96. Caccabis saxatilis.

The Partridge of the country. The Francolin, which is stated to inhabit Palestine, did not come under my observation. I cannot help thinking that there are two distinct races of *Cacc. saxatilis*, neither of them agreeing exactly with the bird I have procured in Greece and in Crete. The specimens I obtained in the cultivated districts are much lighter in colour than the Greek specimens. The black collar is narrower, and the throat sandy white instead of rufous. At the same time they are at least one-third heavier, and at table rival the pheasant in size. They are of a flavour far superior to the French red-legged or Barbary birds. In the mountains I procured others very much smaller than my Greek specimens, but of plumage more like them in hue. The eggs of a nest of this variety, which I took while in the mountains, eleven in number, are scarcely as large as those of *Perdix petrosa*.

97. Caccabis heyii (Temm.).

Of this rare bird, perhaps one of the most elegant of its group, I was fortunate enough to obtain a fine specimen. Riding on a barren hill near the Dead Sea, we observed a pair of birds scarcely larger than a quail running on the steep side with the swiftness of a dog. After a long chase, and forcing them with great difficulty to take wing, one of my companions, Mr. Musters, succeeded in shooting the male bird, which he kindly presented to me. We afterwards saw another pair near Mar Saba. The whole plumage, with the orange bill and lemon-coloured tarsi, is a singular blending of the characteristics of the types of *Caccabis* and *Perdix*.

98. Coturnix dactylisonans.

Extremely abundant wherever there is cultivation in the plains.

99. Otis tarda.

I am told that this bird is sometimes brought into the market at Jaffa from the Plain of Sharon.

100. Otis tetrax.

Not uncommon in the corn-fields on the plains.

101. Œdicnemus crepitans.

Abundant in the plains.

102. Hoplopterus spinosus.

A pair observed on the banks of the Jordan.

103. Grus cinerea.

Saw a flock near Lydda, apparently on their migration. The bird is well known to the inhabitants.

104. Ciconia alba.

Several seen not far to the north of Jerusalem.

105. Ciconia nigra.

I met with a flock of about two hundred Black Storks, apparently searching for food in the barren salt plain close to the north-west corner of the Dead Sea. They were too wary to allow me to approach within shot, but did not fly far when disturbed. As well as I could discover, they were feeding on the small snails which cluster on the twigs of the *Salsola* in that arid region.

106. ARDEA CINEREA.

On the banks of the Jordan.

107. EGRETTA ALBA.

Marshes near Jaffa.

108. EGRETTA GARZETTA.

In the same marshes in considerable numbers.

109. BUPHUS RUSSATUS, Wagl.

Very abundant in the moist meadows round Jaffa.

110. BUPHUS COMATUS (Pallas).

In the same locality as the last.

111. ARDEOLA MINUTA (Linn.).

I flushed one, which I did not obtain, near the mouth of the Jordan.

112 NUMENIUS TENUIROSTRIS?

Some Curlews which I saw near Kirjath-jearim I take to have been of this species.

113. RHYNCHASPIS CLYPEATA.

The only duck I met with in Palestine was a solitary male Shoveller flying up the course of the Jordan.

114. PELECANUS CRISPUS.

An immense flock of this Pelican passed us, swimming out to sea, when within sight of Mount Carmel.

115. STERNA LEUCOPTERA.

One specimen, apparently a straggler, at Jaffa.

116. STERNA CASPIA.

Several of these splendid Terns were fishing close to the shore at Jaffa.

117. XEMA MELANOCEPHALUM.

Abundant at Jaffa.

118. LARUS FUSCUS.

In the same locality, very abundant.

119. Larus argentatus.

Common along the coast.

Several other Gulls were also observed, but not obtained, as we lay at anchor, and in Caiffa Bay probably the whole of the south-eastern species might be collected. *Larus audouinii* and *Sterna affinis* were among those we recognized, but could not secure.

Note to Mr. Tristram's Paper on the Birds of Palestine.

We are acquainted with only two authorities of any importance on the Birds of the Holy Land: first, Hemprich and Ehrenberg's 'Symbolæ Physicæ' (Berlin, 1820–25); and secondly, a paper of Prince Bonaparte in the 'Comptes Rendus' (vol. xlii. p. 764). The following extract, which contains all that relates to Syrian ornithology in the former work, it has been thought advisable to reprint, as the book is very scarce, and difficult of access:—

"In Syriâ xxx. species observavimus, Europæas xx., Asiaticas x. Inter genera unicum Asiaticum est. Nomina nunc brevi enumerare lubet.

1. Ixos xanthopygos, Nob.

(Staturâ et colore *Ixo capensi* et *I. arsinoæ* simillima, hoc paullò major, caudâ longiore, crisso et tectricibus inferioribus lætè flavis: rostro validiore, magìs curvato. Capite atro a *capensi* diversus. Marem fœminam et pullos novimus. Specimina xix. In Arabiâ frequens, in Africâ nunquam visus.)

2. Turdus saxatilis.

3. Turdus merula, var. syriaca.

(Ab Europæâ differt rostro digitisque validioribus, caudâ longiore. Remigum iv^{tus} longissimus.—Rostrum album. Specimen unicum habuimus.)

4. Cinclus aquaticus, var. rufiventris et albiventris.

5. Saxicola eurymelæna, Nob.

(Specimina ix. adsunt, Syriaca omnia. Collare, tergæum et vertex cum pectore et abdomine et basis caudæ alba. Vertex cinereo aspersus. Cervix et pectus dilutè isabellina. Caudæ $\frac{2}{3}$ apice nigræ. Alæ, gula et frontis margo nigra. Fœmina

fusca, gutture nigricante, prope mentum fusco asperso, maculâ paroticâ rufescenti-fuscâ, maculâ pone oculos albâ.

A *S. stapazinâ* Europæâ facilè distinguitur gulæ nigritudine latiore. A *Saxicolâ deserti* Arabicâ et Africanâ collari albo statìm discernitur. A *S. xanthomelænâ* Africanâ et Arabicâ rostro paullò longiore, caudâ latiùs nigrâ, alis non marginatis et colore albo, nec flavicante, differt.)

6. SAXICOLA RUBICOLA.

7. SAXICOLA AMPHILEUCA, Nob.

(Staturâ et colore *S. auritæ* valdè affinis, fronte gulâque albis. Specimina xii. adsunt, Syriaca omnia. Rostrum, pedes et cauda *stapazinæ*, sed gulâ albâ, vertice tergoque non ferrugineis sed mere albis aut cinerascentibus. Unguis posterior brevior, minùs acutus. Ab *auritâ* differt colore candidiore, dorso et abdomine albis, vertice cinereo, pectore flavescente, capite planiore, nigredine inter nares et oculos latiore.)

8. SAXICOLA LIBANOTICA, Nob.

(Staturâ et colore *S. stapazinæ* affinis. Specimina x. venati sumus, Syriaca omnia, mares, fœminas et pullos. Rostro tarsisque longioribus et tergæo cærulescenti-cinereo ab affinibus statìm distinguitur. Tarsi validi, pollicares: rostrum a fronte $6'''$ superat, acutum, rectum. Tergum a vertice inde cærulescenti-cinereum. Frons cum lineâ supraoculari albâ. Fascia nigra per oculos ducta. Alæ cum caudæ apice nigræ. Subtùs tota alba. Fœminæ alis fuscis et fasciâ oculari fuscâ differunt. Pulli fuscescentes, flavo guttati, rostro tarsisque longis faciles discretu.)

9. SAXICOLA ŒNANTHE.

10. SAXICOLA ROSTRATA, Nob.

(Specimina vii. adsunt, eaque in Ægypto superiore, Arabiâ Septentrionali et Syriâ occisa sunt. Staturâ et colore *S. œnanthæ*, sed rostro $6'''$ ad $7'''$ longo, basi latiore, apice tenuiore differt. Senilis cinerea; sed in quatuor speciminibus junioribus, ptilosi *œnanthæ* autumnali indutis et late flavo marginatis remigibus pictis, longissima rostra vidimus. *Œnanthæ* rostrum $5'''$ ad $6'''$ longum. An *œnanthæ*, cujus l. specimina attuli, memorabilis varietas est ?)

11. SYLVIA PHŒNICURUS.

12. SYLVIA SEMIRUFA, Nob.

(Duodecim specimina congessimus, Ægyptiacum unum, reliqua omnia in monte Libano Syriæ. Mares adultos iii., adolescentem distinctum i., reliquos adolescentes sexu dubios habuimus, fœminas suspicabamur eas, quibus color juvenilis, sed alæ non limbatæ sunt. Statura *titæ* ejusque stethiæi colore atro in adultis, sed abdomen *phœnicuri*, saturatiùs ferrugineum. Abdomine et axillis cinnamomeis et rostro longiore a *titâ* differt, a *phœnicuro* remigum secundo breviore, pectore totoque stethiæo atro et ungue rectiore recedit. Mas adultus in capite cinerascit. Rostrum 5‴ ad 5¼‴ longum.)

13. **Curruca galactodes**, var. syriaca.

(Staturâ Ægyptiacâ paullò minor, pedibus gracilioribus, digito posteriore breviore, tarsis æqualibus, rostro breviore depressiore, rectricibus mediis nigricantibus. Colori Ægyptiacæ et Europææ reliquis notis convenit.)

14. **Curruca phragmitis.**

15. **Curruca languida**, Nob.

(Staturâ et habitu *Currucæ pallidæ* nostræ, et *arundinaceæ* Auctorum valdè affinis, magis cinerascens. Cauda paullò magis gradata, solis ii. extimis pennis apice et margine albis. Rostrum basi minùs depressum, carinâ altiore, hinc a latere validius apparet. Suprà unicolor, obscurè fuscenti-cinerea, subtus alba, braccis fuscentibus. Linea supra-ocularis pallida obsoleta. Unicum specimen Syriacum, tanquam e *Currucâ garrulâ* et *pallidâ* hybridum.)

16. **Curruca garrula.**

17. **Curruca cinerea.**

18. **Curruca viridula**, Nob.

(Specimina vi. Habitus et color *S. trochili*, sed statura paullulùm major et alæ longiores. Remigum ratio ut apud *trochilum*. Alæ 2″ 6‴ ad 2″ 7‴ longæ, nec 2″ 3‴ ad 2″ 4‴. Aliæ subtùs flavent, aliæ albent; nonnullæ suprà cinerascunt.)

19. **Curruca trochilus.**

20. **Curruca cisticola.**

21. **Curruca gracilis.** (*Sylvia gracilis*, Licht.)

22. **Curruca orphea**, var. Helena, Nob.

(Staturâ *C. orpheæ* Europææ inferior, rostro longiore, minùs convexo. Long. 5″ 9‴, myxi long. 2¾‴ æquat. Colore Europæam æquat. Specimina iii. adsunt, Syriacum i. capite nigro, Arabica ii. capite cinereo.)

23. Curruca atricapilla.

24. Curruca momus, N. (*Sylvia melanocephala* Nubiæ, Licht.) (Specimina iv. Habitus et color *Curruccæ melanocephalæ.* Rostro, tarsis totoque corpore minor quàm *melanocephala*, remigum 2^{dus} septimo longior, qui eo brevior in *melanocephalâ* est. Tarsus $8\frac{1}{4}'''$. Cauda gradata.)

25. Lanius minor.

26. Lanius rufus, var.

27. Muscicapa grisola.

28. Motacilla alba.

29. Budytes boarulus.

30. Anthus campestris."

The species mentioned by Prince Bonaparte as from Palestine in his article in the 'Comptes Rendus' are—(1) *Cinnyris osea*, Bp. (2) *Crateropus chalybeus*, Bp. (3) *Ixos vallombrosæ*, Bp. (evidently the same as Ehrenberg's *xanthopygius*). (4) *Saxicola erythræa*, H. et E. (5) *Cercomela asthenia*, Bp. (6) *Ammoperdix heyii* (Temm.). (7) *Gavia brunneiceps*, Bp. (8) *Ceryle rudis*. They were collected by the Duc de Vallombrosa.

We quite agree with Mr. Tristram in calling the attention of the many travellers who visit the Holy Land every year, to the very inaccurate knowledge we as yet possess of its fauna, and to the many interesting species which they may obtain there; such as, among the birds, *Cinnyris osea*, *Ixos xanthopygius*, *Amydrus tristramii*, &c., which are *quite unknown in European collections*.—(Ed.)

III.—*Ornithological Reminiscences of Egypt.*

By E. Cavendish Taylor, M.A., F.Z.S.

The following birds (with two or three exceptions) were shot by myself and three friends, in Egypt, between Alexandria and the first Cataract of the Nile, during the months of November and December 1853, and January 1854. In the very few instances where the bird was not actually obtained, it was seen by myself so plainly as to leave no doubt on my mind as to its identity. It will be seen from the list, that, although many of the species obtained by us are not as yet known to visit any part of Europe, still, with two exceptions, they belong to genera which have some representative in European ornithology. I found Egypt a country very rich in birds, especially abounding in *Raptores* and *Grallatores*. It seems to be a favourite winter residence for many of the migratory birds, especially the larger *Grallatores*, which at other seasons visit various parts of Europe. It is, however, perfectly obvious, that, confining the term of our visit, as we did, to three months, and the area of our investigations to the immediate vicinity of the Nile, we can have seen but a very small proportion of the species which visit the country during the course of the year.

RAPTORES.

1. Gyps fulvus. Griffon Vulture.

This species I observed generally distributed throughout the country, but nowhere very abundant. It seemed to avoid the towns, and was rather shy and wary.

2. Neophron percnopterus. Egyptian Vulture.

Very abundant all through the country, especially frequenting the towns and villages. When wounded it made no attempt to defend itself with its beak or claws, but contented itself with vomiting the contents of its stomach,—a bad habit, to which, as far as my experience goes, the preceding species is not addicted. I find the Egyptian Vulture almost universally figured and described as having yellow legs and feet, and by Mr. Gould in his 'Birds of Europe' it is figured with yellow legs and hazel irides. Now I beg to observe, that, in the very numerous specimens which came under my notice, recently killed, and in every stage of transition from brown to the pure white of the adult plumage, the legs and feet were invariably pale flesh-colour, very slightly tinged with brown in the immature birds, but always without the least tint of yellow. The irides are deep red,

3. Aquila imperialis. Imperial Eagle.

Gould's Birds of Europe, vol. i. pl. 5.

This magnificent bird seems rare in Egypt. We only procured one specimen, which I shot near Siout in Upper Egypt, and I am not aware that any of our party saw it on any other occasion.

4. AQUILA NÆVIA. Spotted Eagle.
Gould's Birds of Europe, vol. i. pl. 8.

Generally distributed, and rather abundant. We procured specimens in the plumage of the first year, as it is figured in the second edition of Mr. Yarrell's 'British Birds'; in that of the second or third year, as it is figured by Mr. Gould; and also in the uniform dark brown plumage of more advanced age, in which state it is a much less handsome and striking-looking bird than it appears in Mr. Gould's admirable figure.

5. AQUILA PENNATA. Booted Eagle.
Gould's Birds of Europe, vol. i. pl. 9.

Seems rare. We procured only one specimen, which was shot near Siout. Irides orange-colour.

6. PANDION HALIAËTUS. Osprey.

Generally distributed, and frequently seen, but rather shy and wary.

7. BUTEO RUFINUS. Long-legged Buzzard.
Rüppell, Atlas, pl. 27.

I did not see this bird below Cairo; but above, I found it everywhere pretty abundant. Rüppell's plate, to which I refer, is the only figure of this species that I have seen, except that given in Mr. Bree's work on European birds, now in course of publication. In all the specimens that came under my notice the tail was light cinnamon-red, and not grey, as is represented by Rüppell. This species is about the largest of the genus *Buteo,* the specimens we procured varying from 23 to 25 inches in length. One that I skinned had its stomach filled with small frogs. Irides yellowish brown.

8. FALCO LANARIUS. Lanner Falcon.
Gould's Birds of Europe, vol. i. pl. 20.

A specimen of this splendid Falcon was shot by one of our party near Girgeh in Upper Egypt, while it was being pursued by an eagle (*Aquila nævia*). It was an adult female, measuring fully 21 inches in length. As far as I know, this is the only occasion on which this bird was seen by any of our party. This species, which is labelled *Falco lanarius* both in the British and the Paris museums, and is described as *Falco sacer* by Prince Charles Lucien Bonaparte in his 'Conspectus Generum Avium,' is probably the "Saker" of falconry. Under that name it is figured by Mr. Bree. There was a fine specimen of it alive in the gardens of the Zoological Society of London during the last spring and summer, labeled *Falco lanarius*. The specimen we procured in Egypt had the legs and feet pale yellow; the top of the head yellowish white, with a brown streak along the centre of each feather; the whole upper surface of the body and wings (as I believe is always the case in this species) brown, without any tinge of blue. Under surface white, with large and numerous brown spots.

9. Falco biarmicus, Temm. Double-bearded Falcon.
Falco cervicalis, Licht.

This species is by far the most abundant of the large Falcons in Egypt. It fully equals *Falco peregrinus* in size, the specimens we killed varying from 17½ to 19 inches in length according to sex and age. This bird is labeled in the British Museum *Falco cervialis*, a name of which I do not understand the meaning. *Biarmicus* and *cervicalis* are not bad specific names for it, as the double moustache and rufous cervix are its most striking characteristics. This species is by some considered to be the true Lanner of falconry. I have never seen a good figure of it. It differs conspicuously from the preceding species in having the top of the head and nape of the neck bright rufous; a double moustache; and the whole upper surface of body and wings bluish grey, each feather edged with buff. It is also much smaller, and has the under surface of the body cream-colour, with small roundish black spots. The legs and feet are of a bright yellow.

10. Falco peregrinus. Peregrine Falcon.

By no means abundant. I saw it two or three times, and shot one specimen.

11. Falco æsalon. Merlin.

Tolerably abundant. I noticed rather a strange numerical disproportion in the sexes. Of the six or seven specimens killed, all but one were adult males. Of those I saw, but did not shoot, all were males.

12. Falco tinnunculus. Kestrel.

Excessively abundant, and singularly tame and familiar. I have approached as near as ten yards to one on the ground, engaged in regaling itself on a lizard, or mouse, before it took the least notice of my intrusion.

13. Accipiter nisus. Sparrow Hawk.

Not uncommon, but rather local; principally frequenting the groves of gum-acacia.

14. Milvus ægyptius. Arabian Kite.

The most abundant of any bird of prey in Egypt; especially frequenting the towns and villages, where they did not appear at all to molest the pigeons or poultry. These birds used to follow our boat in flocks, picking up anything we threw overboard into the river like sea-gulls. They seemed to live principally on small lizards, and to be very harmless and inoffensive. This species is not included in Mr. Gould's work on European birds; but as it is so very abundant in Egypt, and not less so about Alexandria than further south, I feel little doubt but that it may occasionlly be met with in the south-eastern portions of Europe. The tail in this species is only slightly forked; the beak is pale straw-colour; the irides are brown—characteristics which at once distinguish it from *Milvus ater* of Europe, which has the beak black and the irides yellow. Legs very short. Feet small and weak.

15. Elanus melanopterus. Black-winged Kite.
Gould's Birds of Europe, vol. i. pl. 31.

Abundant all through the country. In the months of November and December I generally saw single birds; but by the middle of January they were almost always to be seen in pairs. The food of this species seems to be chiefly small lizards and large insects. The feet and toes are yellow, and more fleshy than is usual in the Raptores. Irides of the most brilliant orange-red. I once saw this species in the Campagna, near Rome, which is, I believe, further north than it usually ranges.

16. Circus rufus. Marsh Harrier.

Generally distributed, and rather abundant. All the numerous specimens that came under my notice in Egypt were in what is considered to be the plumage of the first or second year.

17. Circus cyaneus. Hen Harrier.

Rather less abundant than the last species.

18. Circus cineraceus. Montagu's Harrier.

Occasionally killed, but less abundant than either of the preceding species.

19. Circus pallidus. Pallid Harrier.

Gould's Birds of Europe, vol. i. pl. 34.

We procured one adult male specimen, which differs from *Circus cyaneus* in being paler in colour, and in having the upper tail-coverts broadly barred with grey.

20. Bubo ascalaphus. Egyptian Horned-Owl.

Gould's Birds of Europe, vol. i. pl. 38.

The vicinity of Minieh is the only part of the country where I saw this bird; there, however, we killed three or four specimens in the space of two days. On one occasion its presence was betrayed to me by the noise made by some hooded crows, who were persecuting it as it sat in a palm-tree. The irides are of a brilliant orange-yellow. Length 18 to 19 inches.

21. Strix flammea. White Owl.

Occasionally seen, and once shot.

22. Athene meridionalis.

Abundant all through the country, and very tame and fearless. I have seen it both in Alexandria and Cairo, in the middle of the town. This species differs from *Noctua nudipes* (Gould's Birds of Europe, vol. i. pl. 48) in being paler in colour and somewhat smaller in size. Irides pale golden yellow.

INSESSORES.

23. Caprimulgus isabellinus. Isabella Goatsucker.

By no means rare; but it does not often show itself before twilight.

24. Cypselus apus. Common Swift.

Tolerably abundant.

25. Hirundo rustica. Common Swallow.

I found this bird abundant in and around Alexandria and Cairo on my arrival in Egypt about the middle of November. I do not recollect whether I saw it on my return to Lower Egypt at the end of January.

26. Hirundo rupestris. Crag Swallow.

Gould's Birds of Europe, vol. ii. pl. 56.

The most abundant of the *Hirundines* above Cairo. I found a nest of this species, on the 25th of January, in the grottoes of Beni-Hassan, containing two eggs nearly ready to hatch. Both nest and eggs much resembled those of the Common Swallow.

27. Merops viridis. Egyptian Bee-eater.

Very abundant, and generally seen in small flocks. This species is not more than half the size of *Merops apiaster.* Irides red.

28. Alcedo ispida. Common Kingfisher.

I saw this bird once only, near Atfeh, the place where the Mahmoudeeh Canal joins the Nile.

29. Alcedo rudis. Black and White Kingfisher.

Gould's Birds of Europe, vol. ii. pl. 62.

Abundant all the way from Alexandria to the first Cataract, and very tame and familiar. The food of this species seems to be entirely fish; I have often watched it hovering over a shallow pool of water, and every now and then darting down, and catching fishes sometimes as much as three or four inches in length. This bird breeds in holes in the banks of the Nile. Its irides are dark brown. Legs and feet black.

30. Lanius excubitor. Grey Shrike.

Occasionally shot, but not by any means abundant.

31. Petrocincla cyanea. Blue Rock-Thrush.

Gould's Birds of Europe, vol. ii. pl. 87.

We only procured one specimen of this bird in Egypt. It is one of the commonest species of birds in Italy. I have noticed it peculiarly abundant about Susa, and in a less degree so in the neighbourhood of Rome. In the south of Italy, and in Sicily, I have often seen it kept as a cage-bird.

32. SAXICOLA CACHINNANS. Black Wheatear.
Gould's Birds of Europe, vol. ii. pl. 88.

I did not notice this species below Assouan (the first Cataract); there, however, it was abundant.

33. SAXICOLA LUGENS, Licht.
S. leucomela, Temm. Pl. Col.

The most abundant of all the *Saxicolæ* on the Nile.

34. SAXICOLA STAPAZINA. Russet Wheatear.
Gould's Birds of Europe, vol. ii. pl. 91.

Frequently seen and killed. I have no doubt but that many other species of *Saxicolæ* may be found in Egypt; but as they chiefly frequent the desert, and we seldom strayed more than two or three miles from the banks of the Nile, we only saw the hree species I have enumerated.

35. MOTACILLA ALBA. White Wagtail.

Excessively common all through the country.

36. MOTACILLA LUGUBRIS. White-winged Wagtail.
Gould's Birds of Europe, vol. ii. pl. 142.

I found this species rather rare.

37. MOTACILLA NEGLECTA. Grey-headed Wagtail.
Gould's Birds of Europe, vol. ii. pl. 146.

Only occasionally seen.

38. ALAUDA CRISTATA. Crested Lark.

Excessively abundant. This bird, and *Motacilla alba*, are the most abundant of all the small birds in Egypt.

39. PASSER SALICICOLA, Vieill. Spanish Sparrow.
Passer hispaniolensis, Gould's B. of Europe, vol. iii. pl. 185.

Abundant; frequenting the open country in large flocks, and roosting in trees.

40. PASSER CISALPINUS. Cisalpine Sparrow.
Gould's Birds of Europe, vol. iii. pl. 185.

Abundant; associating with the preceding species.

41. Erythrospiza githaginea. Vinous Grosbeak.
Gould's Birds of Europe, vol. iii. pl. 208.

Tolerably abundant; frequenting the open country, and the borders of the desert, in small flocks. I never saw this bird settle on trees, but always on the ground. Bill bright red. Legs and feet pale brown.

42. Sturnus vulgaris. Common Starling.

This bird was seen and shot on one occasion only, in Lower Egypt, near Cairo.

43. Corvus corax. Raven.

Occasionally seen, but not abundant.

44. Corvus cornix. Hooded Crow.

Excessively abundant, and very bold and fearless.

45. Upupa epops. Hoopoe.

One of the commonest birds in Egypt, especially abounding in the vicinity of the towns and villages. In the month of January I used to notice these birds entering the holes in the crude brick walls; I frequently dug them out, but never found any eggs. We found the Hoopoe a very good bird to eat. I have occasionally seen it in various parts of France and Italy; but the only place in Europe where I have found it at all abundant is the neighbourhood of Catania in Sicily.

46. Centropus senegalensis. Straight-heeled Coucal.

Only one specimen obtained, which I shot near Atfeh. This species was not seen by us on any other occasion. Irides red. Legs and feet greenish grey. No species of the genus *Centropus* is included in European ornithology.

47. Cuculus glandarius. Great Spotted Cuckoo.

Frequently seen and shot, but not very abundant.

RASORES.

48. Columba schimperi. Schimper's Pigeon.
Bp. Consp. vol. ii. p. 48.

Excessively abundant all through the country in a semi-domesticated state; inhabiting the dove-cotes, which are the most conspicuous public edifices of the Egyptian villages, and frequenting the open country in large flocks—so large, indeed, that with three guns we have killed as many as 100 head in about two hours. I have often seen these birds, when they come down to the Nile to drink, actually settle, and sit on the water like sea-gulls, which struck me as rather an abnormal practice for pigeons. This species differs from *Columba livia* in having the lower part of the back and rump of a darker shade of grey than the wings, instead of white as in that species. Bill black. Irides orange. It never perches on trees.

49. Turtur senegalensis, Linn. Cambaian Turtle.
Turtur ægyptiacus, Temm.

Very abundant throughout the country, especially frequenting the groves of gum-acacia. We found this bird exceedingly good to eat.

50. Pterocles exustus, Temm. Singed Sand Grouse.

Abundant on the borders of the desert, in small flocks. Rather wild, and difficult to shoot. This bird is very good eating.

51. Pterocles senegalensis, Latham. Senegal Sand-Grouse.

Occasionally killed, but by far less abundant than the preceding species. In both species there is a very marked difference in plumage between the sexes.

52. Coturnix vulgaris. Common Quail.

Abundant; especially frequenting the young wheat. Of the five Rasorial birds killed by us in Egypt, this is the only one which is included by Mr. Gould in his 'Birds of Europe.'

GRALLATORES.

53. Grus cinerea. Common Crane.

Rather rare, and very wary and difficult of approach.

54. Ardea cinerea. Common Heron.

Tolerably abundant.

55. Ardea russata. Buff-backed Heron.
Ardea bubulcus, Savigny.

Excessively numerous all through the country, and very tame and familiar. It does not frequent water, or marshy ground, like most of its congeners, but especially affects the society of cattle; I have often seen it standing on the backs of buffaloes and cows. From this propensity to fraternise with cattle it is called 'Cow Bird' by the English. I never saw an example of this bird with the elongated buffy plumes on the back, which are considered to be characteristic of the species. All that I saw had the entire plumage pure white, except the crown of the head, which was buff. I conclude from this that the elongated dorsal plumes are peculiar to the breeding season, as I cannot believe that the very numerous specimens which came under my notice were all in immature plumage. Bill and irides yellow. Legs and feet blackish grey. This bird does duty on the Nile as the *Ibis*, being generally pointed out to travellers by dragomans, &c., as the real *Ibis religiosa*. For the Ibis, I should say, is now a rare bird in Egypt; at any rate, none of our party saw it, and I have been assured that the only part of the country where it is now regularly seen, is the neighbourhood of Lake Menzaleh, near the Damietta mouth of the Nile.

56. NYCTICORAX EUROPÆUS. Night Heron.

Rather local; living in flocks, and seems always to resort during the day to the same grove of palm-trees, to which, on being disturbed, they would return after a short flight. I have noticed this species as not unfrequent in the vicinity of Catania in Sicily.

57. CICONIA ALBA. White Stork.

Common, but rather wild.

58. CICONIA NIGRA. Black Stork.

Frequently seen, but less abundant than the former species.

59. PLATALEA LEUCORODIA. Spoonbill.

Abundant; but very wild, and difficult to shoot.

60. ŒDICNEMUS CREPITANS. Common Thick-knee.

Tolerably abundant. We found these birds particularly good to eat.

61. HOPLOPTERUS SPINOSUS. Spur-winged Plover.

Gould's Birds of Europe, vol. iv. pl. 293.

About the commonest bird in the country, and very noisy and tame. Irides dark red. We used to eat both this and the next species of Plover, but both were rather dry and insipid.

62. Pluvianus ægyptius, Linn. Black-headed Plover.

I did not see this very pretty species below Cairo, but above I found it everywhere numerous. Irides dark brown. Legs and feet pale blue. Toes three in number. This bird enjoys the credit of being the *Trochilos* of Herodotus, which he mentions as living on such terms of intimacy with the Crocodile. The account which that veracious historian gives of the *entente cordiale* between these apparently ill-assorted allies is as follows:—"As the Crocodile lives chiefly in the river, it has the inside of its mouth constantly covered with leeches; hence it happens that while all other birds and beasts avoid it, with the *Trochilos* it lives at peace, since it owes much to that bird: for the Crocodile, when he leaves the water and comes out upon the land, is in the habit of lying with his mouth wide open, facing the western breeze: at such times the *Trochilos* goes into his mouth and devours the leeches. This benefits the Crocodile, who is pleased, and takes care not to hurt the *Trochilos*." Herodotus, Book ii., end of chap. 68. As a matter of fact, I seldom saw a crocodile on land without seeing a *Pluvianus ægyptius* near him.

63. Charadrius minor. Little Ringed Plover.

Occasionally seen, and shot.

64. Vanellus cristatus. Lapwing.

We once fell in with a small flock of these birds, and shot some of them.

65. Vanellus leucurus (Licht.). White-tailed Plover.

Vanellus Villotæi, Savigny's Descr. de l'Eg. pl. 6. fig. 2.

This is, perhaps, the rarest species of bird we procured in Egypt. There is one footless specimen only in the British Museum, which is not named; and in the Paris Museum, at the Jardin des Plantes, I could not find it at all. Savigny says that it is found only in Egypt. The only part of the country where I saw it was on an extensive tract of wet, marshy ground about four or five miles S.W. of Thebes, on the left bank of the river. There, however, it was abundant, and we shot several. Length

11 inches. Bill black. Irides red. Legs and feet very bright yellow. Legs long. Toes four in number. Head and neck brownish grey: back brown, glossed with purple: throat whitish: breast bluish grey: belly buff: thighs, vent, upper and under tail-coverts, tail-feathers and wing-coverts pure white. Primaries black.

66. Numenius arquata. Common Curlew.

Occasionally shot, but by no means common.

67. Himantopus melanopterus. Black-winged Stilt.

I saw this bird on one occasion only, on some marshy ground near Benisouef, where there were several flying about, one of which was shot.

68. Totanus ochropus. Green Sandpiper.

Abundant, and generally distributed.

69. Totanus hypoleucus. Common Sandpiper.

Not quite so numerous as the preceding species.

70. Totanus stagnatilis. Marsh Sandpiper.

Gould's Birds of Europe, vol. iv. pl. 314.

We procured one specimen only of this rare species, which was shot on some marshy ground near Denderah.

71. Totanus glottis. Greenshank.

Occasionally killed, but rather rare.

72. Tringa temminckii. Temminck's Stint.

Occasionally killed in Upper Egypt, but by no means numerous.

73. Scolopax gallinago. Common Snipe.

Tolerably abundant in marshy ground.

74. Scolopax gallinula. Jack Snipe.

Almost as numerous as the preceding species, and frequenting the same localities.

75. Rhynchæa bengalensis (Gm.). Short-winged Painted Snipe.

The only time we fell in with this bird was on some wet ground near Keneh, where we killed six, two of which I skinned, and the rest we ate, and found rather nasty. Bill reddish brown. Legs and feet greenish grey. I believe that no species of *Rhynchæa* has yet been included in the list of European birds.

NATATORES.

76. Anser albifrons. White-fronted Goose.
Abundant; generally in flocks.

77. Anser ægyptiacus. Egyptian Goose.
Numerous; frequently seen in pairs.

78. Tadorna rutila. Ruddy Sheldrake.
We shot this species between Cairo and Sakara. I did not notice it on any other occasion.

79. Anas clypeata. Shoveller Duck.
Occasionally shot.

80. Anas boschas. Common Wild-Duck.
Abundant.

81. Anas acuta. Pintail Duck.
By no means rare.

82. Anas crecca. Teal.
Tolerably numerous.

83. Pelecanus onocrotalus. Common Pelican.
This magnificent bird is tolerably numerous, and generally distributed. It is usually to be seen standing on sand-banks in the bed of the river, and is a characteristic feature of Nile scenery.

84. Carbo cormoranus. Common Cormorant.
Abundant, roosting in the cliffs overhanging the river.

85. Sterna anglica. Gull-billed Tern.
We procured a specimen of this bird on some marshy ground between Cairo and Sakara, where there were several flying about.

86. Xema —— ?
We shot a small Gull belonging to the division of the genus which has the head dark-coloured in summer; as the specimen

in question was in immature winter plumage, I could not determine the species.

87. Larus audouinii, Temm. Audouin's Gull.
Gould's Birds of Europe, vol. v. pl. 438.

On two or three occasions, at a considerable distance above Cairo, I noticed a large Gull with a bright red bill, which I believe to have been *Larus audouinii*. I never succeeded in procuring a specimen.

IV.—*On the different Methods of preparing Natural Skeletons of Birds.* By T. C. Eyton, F.Z.S., &c.

I propose in this paper merely to state the different methods which I have employed in preparing the *natural* skeletons in my collection. Not that I entirely object to *artificial* skeletons; but I prefer *natural*, particularly if purchased from dealers, as the former are so very liable to be adulterated, if I may so apply the word. I have now before me a beautifully mounted skeleton of a *Circus*, purchased of a dealer, which has *two left metatarsi.*

Birds generally come into collectors' hands either fresh with the flesh on, or partially cleaned and without having been macerated, or partially cleaned and having been also macerated. In the first case, I always remove as much of the flesh as I conveniently can, and macerate the skeleton in water, which has a small piece of the flesh, previously removed, placed in it, until the flesh which remains on the bones becomes soft and easily scraped off. After this I place the skeleton in clean water, and change the water frequently until it ceases to become discoloured. I then place the skeleton in a solution prepared in the following way:—Make a saturated solution of common alum, and when cool dilute it with an equal quantity of water, and add to it half an ounce of common salt for every half-pound of alum. This solution converts the ligaments into a species of leathery substance, and also destroys the colour of any blood that may have penetrated the bones. The time that is required to effect this varies according to the state and size of the skeleton. If it be clear of blood, twenty-four hours will be sufficient; but sometimes larger birds, of a bad colour, must be kept in the solution nearly a week. When the skeleton is removed from the solution of alum, the ligaments will be found to have become much stiffened, though not so much but that the skeleton can be easily put into position. The next step is to wash the skeleton slightly under a tap of water, if convenient, or if not, in a basin; this prevents the crystals of alum forming on the outside of the bones when dry. It is now ready for mounting, and will be easily brought into the position in which it is wished to be arranged in the following way:—Having fixed the feet to a stand, prepare a flat board, and upon it an upright square or rounded piece of wood, with numerous holes drilled horizontally through it at different distances, in which wire-pegs can be inserted, so as to be moveable to different heights. Fasten the second vertebra of the skeleton to the topmost peg with a thread, and other parts of the skeleton to such wire-pegs as may be found convenient, according to the attitude necessary. When the skeleton is dry, it will merely require to be varnished with mastic varnish, and is then complete. It is generally better to remove the head, for greater convenience in cleansing out the brain; this may be easily fastened on again with a piece of wire.

The most difficult skeletons to clean are those which have been dried with much flesh left on them, particularly when it has remained on them for any length of time. It is sometimes almost impossible to succeed in bringing the bones of such skeletons to a good colour. In this case macerate the bones first in plain water, and remove as much of the flesh as possible. Then place the skeleton in a strong solution of carbonate of potash, or even, if requisite, in a weaker one of caustic potash, though this only for a very few hours. Remove any flesh that could not previously be taken off, and then macerate it again in water for about twenty-four hours. The treatment is afterwards the same as in that of fresh skeletons. Those skeletons that have been previously slightly macerated will be found to be much more easily prepared than those that have not been dipped in water at all before packing, as in the former case the remaining flesh does not become nearly so hard and impervious to water.

If travellers who collect skeletons, after removing as much flesh as possible from the subject, would merely macerate it for an hour in water, it would save much labour and time in mounting. It is also as well to leave the large wing- and tail-feathers, and the skin of the scalp on the specimens, in order to assist in identifying the species, where the skins are not transmitted also.

Again, if collectors in preparing skins would extract the brain with a wire, instead of breaking up the whole of the back part of the skull, many valuable contributions to the osteology of Birds would be preserved, in the heads of their specimens.

V.—*Characters of apparently new species of Birds collected in the great Desert of the Sahara, southwards of Algeria and Tunis.* By the Rev. H. B. Tristram, F.L.S.

1. Certhilauda salvini, Tristram.

Suprà pallidè isabellina, superciliis indistinctis et corpore subtùs albis, pectore summo vix conspicuè nigro guttato; strigâ rictali indistinctè nigricante: alis nigricantibus, fasciis duabus latis, alterâ ad basin secundariorum, alterâ terminali, albis: secundariis tribus externis dorso concoloribus; primariis sex externis, nisi in parte basali, nigricantibus: caudâ nigrâ, rectricibus duabus extimis albo extùs marginatis, duabus mediis dorso concoloribus: tectricibus alarum inferioribus niveis: rostro pallidè fusco: pedibus schistacescenti-albis: long. totâ 7·8, alæ 4·5, caudæ 3·1, tarsi 1·3.

♀ mari similis.

Hab. in Saharâ Algeriensi.

Obs. Differt a *Certhilaudâ desertorum* staturâ minore, fasciis alarum albis latioribus, et secundariis multò minus elongatis.

2. Galerida macrorhyncha, Tristram.

Cristata: corpore suprà arenicolori-fusco, plumarum parte mediâ nigricante: primariis nigricanti-brunneis, cervino extùs limbatis: caudâ nigricante, cervino limbatâ: rectricum externarum apicibus cervinis: subtùs sordide alba, antice rufescente tincta; gulâ et pectore nigro striatis; tectricibus alarum inferioribus pallidè cervinis; rostro fusco, mandibulâ inferiore multò pallidiore; pedibus pallidè carneis: long. totâ 7·8, alæ 4·5, caudæ 2·8, rostri à rictu 1·0, tarsi 1·05.

Hab. in Saharæ Algeriensis parte boreali.

Obs. Affinis *Galeridæ cristatæ*, sed staturâ majore et rostro elongato, incurvo distinguenda.

3. GALERIDA ARENICOLA, Tristram.

Similis *Galeridæ abyssinicæ* Bp. quoad magnitudinem, colore autem *Galeridæ isabellinæ* appropinquans, sed differt ab utrâque rostro elongato, tenui, et paullùm incurvo: long. totâ 6·6, alæ 4·1, caudæ 2·4, rostri à rictu 0·9, tarsi 0·9.

Hab. in Saharæ Algeriensis regione aridâ.

4. CALANDRELLA REBOUDIA, Loche, MS.

Similis *Calandrellæ brachydactylæ,* sed rectricibus extimis albo, neque fulvo, extùs limbatis; rostro fortiore et breviore et colore omnino pallidiore et magìs isabellino.

Hab. in Saharâ Algeriensi.

5. DRYMOICA STRIATICEPS, Tristram.

Suprà fuscescenti-cinerea, uropygium versus paullùm rufescens, pileo nigro striolato: superciliis indistinctè albidis: lineâ inter rictum et oculum angustâ nigrâ; alis obscurioribus extùs dorso concoloribus: caudâ fusco-nigricante, rectricis extimæ pogonio exteriore omninò et proximæ apice sordidè albis: subtùs alba, hypochondriis rufo tinctis: rostro et pedibus pallide aurantiacis: iridibus pallidè fuscis: long. totâ 4·25, alæ 2·75, caudæ 2·1, tarsi 0·75, rostri à rictu 0·5.

Hab. in Saharæ Algeriensis regione meridionali.

Obs. Forsan cum *Maluro Saharâ,* Lochii, nondum descripto, co-æqualis.

6. SYLVIA DESERTICOLA, Tristram.

Rufescenti-fusca, interscapulio et marginibus alarum nigricantium latis castaneis: ciliis oculorum albis: subtùs cinnamomescenti-alba, lateralitèr magìs rufescens: caudâ fusco-nigrâ, rectricis extimæ pogonio externo et pogonii interni parte apicali albis; rectrice secundâ albo vix terminatâ: mandibulâ superiore pallidè fuscâ, inferiore citrinâ; pedibus pallidè citrinis: iridibus flavissimis: long. totâ 4·50, alæ 2·1, caudæ 2·0, tarsi ·75, rostri à rictu ·47.

♀ omninò pallidior, interscapulio dorso concolore, et corpore subtùs magìs albo.

Hab. in Saharæ Algeriensis parte australi.

Obs. Affinissima *Sylviæ conspicillatæ* in vestitu hyemali, sed capite et dorso superiore rufescenti-fusco, nec cinereo, et colore corporis inferi distinguenda.

7. SAXICOLA PHILOTHAMNA, Tristram.

Sordidè cinerea, fronte et superciliis albescentibus, dorso medio et scapularibus cinerascenti-nigris: lateribus capitis et gutture nigris, abdomine sordidè albo: dorso postico cum caudæ basi imâ et crisso cinnamomescenti-albis: alis fusco-nigricantibus, tectricibus majoribus albido, remigibus cinnamomeo extùs marginatis: rostro et pedibus nigro-fuscis: long. totâ 7·0, alæ 3·6, caudæ 2·7, tarsi 1–2, rostri à rictu ·8.

♀ supra cinnamomea, interscapulio obscuriore, uropygio dilutiore, subtùs sordidè alba: alis caudâque nigricanti-fuscis, illis cinnamomescenti-albo limbatis, hujus basi latè cinnamomeâ.

Hab. in Saharâ Algeriensi, arbusta frequentans.

Obs. Forsan *Dromolæa isabellina* Lochii, sed cum *Saxicolâ isabellinâ* Rüppellii et Temminckii minimè coæqualis.

8. Saxicola halophila, Tristram.

Suprà cinnamomea, superciliis et dorso postico purè albis: lateribus capitis et alis nigricantibus; his sordido albo angustè marginatis: caudâ albâ, rectricum lateralium fasciâ latâ terminali et duabus mediis ferè omninò fusco-nigris: subtùs alba, gutture et pectore cinereo adumbratis: rostro et pedibus nigris: long. totâ 5·5, alæ 3·5, caudæ 2·4, tarsi 1·0, rostri à rictu 0·6.

♀ mari similis, sed coloribus paullò dilutioribus, et lateribus capitis præcipuè minùs nigris.

Hab. in Saharâ Algeriensi, loca salifera frequentans.

9. Saxicola homochroa, Tristram.

Pallidè cinnamomea, subtùs dilutior: caudâ nigrâ: ventre uropygio et crisso cum basi caudæ albis: alis nigricanti-fuscis sordido albo omninò limbatis: rostro et pedibus nigricanti-fuscis: long. totâ 5·5, alæ 3·5, caudæ 2·5, tarsi ·95, rostri à rictu 0·6.

Hab. in Saharâ Tunitanâ.

VI.—*Observations on the Birds of St. Croix, West Indies, made, between February 20th and August 6th 1857 by* Alfred Newton, *and, between March 4th and September 28th* 1858 *by* Edward Newton. (Part I.)

The Danish Island of Saint Croix, or, as it is often called, Santa Cruz, lies between 64° 40′ and 64° 59′ longitude West of Greenwich, and in lat. 17° 45′ North, about forty miles nearly due South from St. Thomas, and eighty miles East by South of Porto Rico. It is about twenty miles in its greatest length, which lies almost due east and west, with a breadth varying from one to four

miles. It was discovered by Columbus on his second voyage, in 1493; and the name bestowed on it by the "grand Admiral" is still the one most frequently used in conversation. It is supposed to have been first settled by the English and Dutch about 1625, and for the next five-and-twenty years was, like all the adjacent islands, the scene of constant bloodshed. In 1650 the Spaniards made a descent upon it from Porto Rico, and completely destroyed the rising plantations, but in their turn were very shortly afterwards expelled by the French, who proceeded to found a colony there. The settlement proved to be very unhealthy: three governors in succession and two-thirds of the colonists died the first year; and, as it was deemed, and no doubt rightly so, that the insalubrity was caused by the dense and aged forests which covered the island, the survivors determined to burn them down. Accordingly, having set fire to them, they retreated to their ships and witnessed the conflagration, only returning when the fire had burnt itself out*. Since this, the island has had a high reputation for healthiness.

That the simultaneous and sudden destruction by fire of all the woods in an island like this would have a marked and lasting effect upon its Fauna, no one can doubt; and one of its results may probably be traced in a fact ascertained by Herr Apothek Riise of St. Thomas, that in St. Croix there occur the "dead" shells of about a dozen species of terrestrial Mollusks, of which he has never found a single example inhabited by the living animal, though they are undoubtedly recent and not fossil forms. It is difficult to account for the extinction of so many species, unless it may be presumed that the changes brought about in the island by so great a fire, rendered it unsuitable for their longer habitation. It is fair to suppose that the Birds were affected, in at least some degree, like the Mollusks; particularly when we observe that, though St. Croix lies some way removed from the chain of the neighbouring islands, no one species is to be found there which is peculiar to it alone—the case with nearly all the West Indian islands, whose ornithology has been investigated, being the reverse,—and further when we discover, that there hardly occurs there a single representative of those genera which are most typical of the birds of the Antilles as distinguished from those of either of the neighbouring continents.

---

* Abridged from 'An Historical Account of St. Thomas, W. I., with notices of St. Croix and St. John's.' By John P. Knox. New York, 1852.

The eastern end of St. Croix is comparatively barren, as is the windward side of most of the islands of the West Indian archipelago; and the plantations there have been mostly abandoned, the country being now overgrown with "bush" of a moderate height, consisting chiefly of the "Casha" (*Acacia farnesiana*, W.) with interspersed *Cacti* and *Euphorbiæ*. A chain of low hills rises near the sea, which runs with scarcely any interruption along the north side to the western end, attaining its greatest elevation in what is called Blue Mountain (in humble imitation, probably, of the lofty peak of that name in Jamaica). Most of these hills are clothed with the same kind of bush as the east end, with the exception of the *Cacti*. They slope abruptly to the sea-shore on the north and north-west; but between them and the south side lie those gently undulating plains for the fertility of which the island is so justly celebrated. These are, for the most part, highly cultivated, that part of the land which is fit for growing the Sugar-cane being divided into regular squares or parallelograms, separated from each other by narrow strips called "ranges," just wide enough to allow of the passage of a cart, which gives the country, when viewed from the hills, the appearance of a vast chess-board. But here and there a tall line of Cocoa-nut (*Cocos nucifera*, L.), Mountain-cabbage (*Areca oleracea*, Jacq.), or Thibet Trees (*Acacia lebbek*, W.) breaks the horizon, while dotted about are the different "works" of the sugar estates, with their long rows of buildings, boiling, curing, and megass houses, the mule and cattle pens, and the lofty engine-chimney or windmill, according to the motive power employed. Shaded by towering palms and tamarinds, and embowered amid thickets of oleanders and oranges, stand the hospitable dwellings of the planters and managers, while hard by, almost hidden in a verdant forest of bananas or plantains, lie the more humble houses of the negro village. The southern shore, fringed with the deadly Manchioneel (*Hippomane mancinilla*, L.), is extremely flat, and contains a large lagoon surrounded by a dense grove of Mangroves (*Rhizophora mangle*, L.), under the arching root-branches of which burrow Land-crabs innumerable. The north-west corner of the Island is very beautiful, and contains the greatest number of forest-trees to be found in the place, though many of them are natives of distant lands. Along the sides of the ravines with which it is intersected, are to be seen in its glory that most stately and magnificent of the palms the Mountain Cabbage, the Mammee (*Mammea americana*, L.), and the Mango (*Mangifera indica*, L.), contrasting their deep emerald leaves with the grey foliage of the Mahogany; the many different species of *Ficus*, with their curious roots sprouting from their trunks and branches; the broad-leaved Bread-fruit (*Artocarpus incisa*, L.); the graceful Turpentine (*Bursera gummifera*, Jacq.), in appearance recalling the Birch of northern latitudes; while along the margins of the streams that run among the hills are the so-called "gardens," whose chief characteristic is the luxuriant Bananas and Plantains (*Musæ*) waving their wide leaves split into ribands by the wind, and shaped like Chinese banners. Above all, that most striking feature of the West Indian forest, the gigantic Silk-cotton tree (*Eriodendron anfractuosum*, D. C.) extends its grotesquely shapen limbs, affording a friendly harbour to numberless tufts of *Bromeliaceæ*, garlanded with festoons of trailing "vines," and often presenting the curious spectacle of a tree subject at the same time to the influence of all four seasons*.

But our object is now the birds of St. Croix; and we are loth to occupy the attention of our readers with too many prefatory remarks. Let it suffice to say, that we believe that the ornithology of this Island has never previously been investigated, and that we are now far from thinking that the following is anything like a perfect list of the birds which occur there. The fact must especially be taken into consideration, that our observations extended over many of the same months in both years, and that neither of us had much opportunity of examining what additions were made to its *Avi-fauna* by autumnal migrants and winter residents. It is particularly likely that the numbers of *Sylvicolinæ* and *Scolopacidæ* are much understated. When any object was to be gained by specifying which of us was the observer of a fact, we have been careful to word that portion which relates it in the first person singular, to place it between inverted commas, and to add the proper initials; but in general the date of the year will show who is responsible for the statement. To the notice of those species of which we did not obtain specimens, and concerning the determination of which some doubt may therefore be entertained, there is prefixed a note of interrogation; and those which occur also in the Island of St. Thomas are marked by a dagger.

---

* See Gosse's 'Naturalist's Sojourn in Jamaica,' pp. 278 and 499.

1. [?] AMERICAN OSPREY. *Pandion carolinensis,* Bp. *Falco haliæëtus,* ptm., L.; Aud. pl. 81.

We have both seen on various occasions what we fully believe to have been this species. It probably appears in the island at all times excepting the breeding season.

2. DUCK FALCON. *Falco anatum,* Bp.; *F. peregrinus,* Wils. pl. 76.

The sternum and other bones of a bird which had been wounded in the autumn of 1856 and kept alive for some time, are now in our possession; and we have no doubt as to this being the species to which they belong.

"I saw a Falcon, probably of this species, March 17th, 1858." —E. N.

† 3. AMERICAN KESTREL. *Tinnunculus sparverius,* Vieill. *Falco sparverius,* L.: F. B. A. ii. pl. 24: Aud. pl. 42. "Killie-killie."

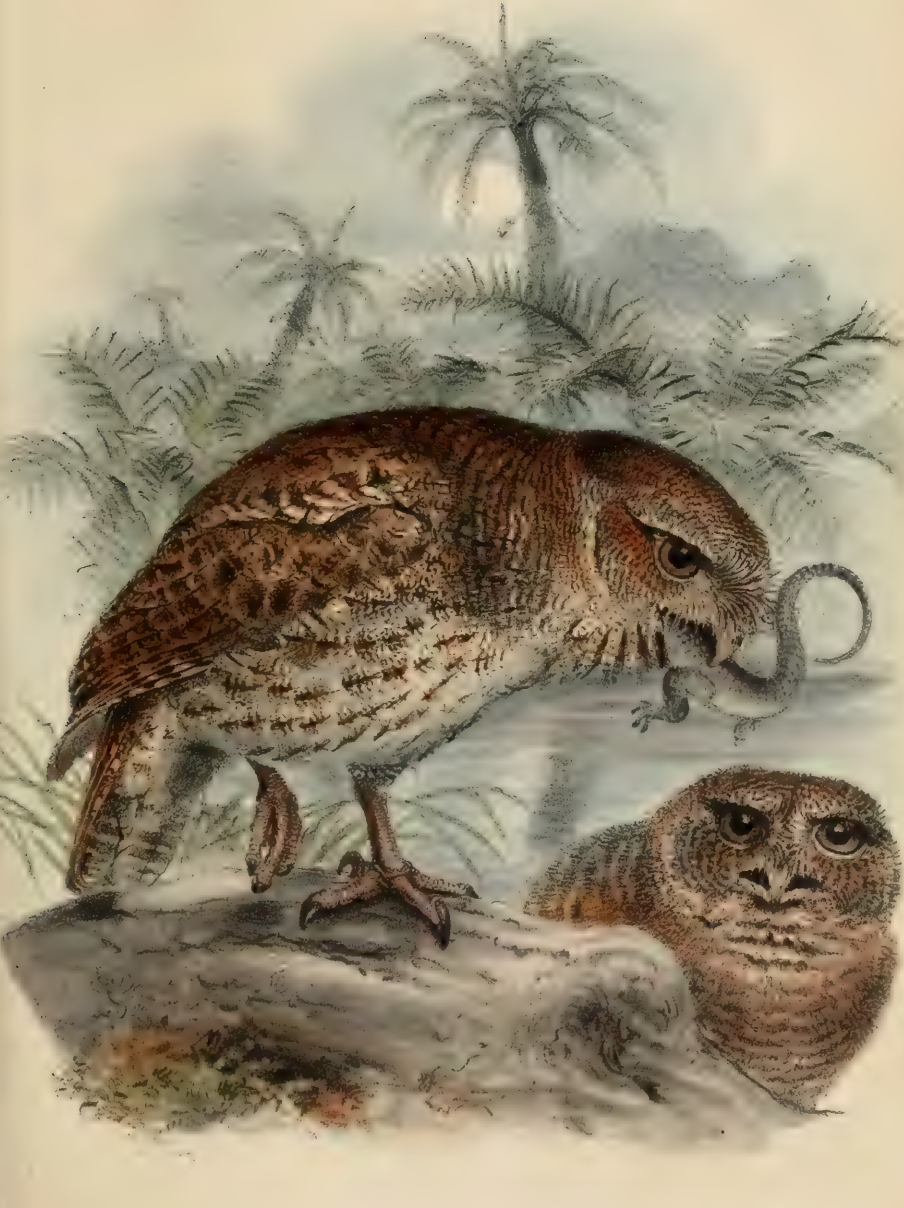
This bird is common over the whole island, and may almost always be seen hanging in the wind at a considerable height from the ground, in the manner of its European congener (*T. alaudarius,* Gray), or passing rapidly from tree to tree in its graceful flight, uttering, as it goes, its plaintive cry. It seems to breed most commonly on the old windmills dismantled since the almost general introduction of steam-power. A male, killed May 2nd, 1857, had in its stomach the remains of a full-sized house-lizard (*Anolis,* sp. ?). Another male, shot April 2nd, 1858, was carrying in its claws a mouse or small rat, which, dropping into a thick bush, was lost. All the specimens obtained by us were very brightly coloured; but assuredly there is no specific difference between them and those from North America. Individuals vary very greatly in the size of their bills. Specimens from St. Croix are in the Norfolk and Norwich Museum. A female, killed March 12th, 1857, had the skin of the chin of a bright straw-colour plainly showing through the feathers. The name by which this bird is known in the island sounds like a good imitation of its cry.

" May 6th, 1858.—On sending a negro up a Thibet Tree (*Acacia lebbek,* W.) to examine a hole, in which I had been told a young Owl had been found last year, out flew a female 'Killie-killie,' and perched immediately on a tree close by. In the hole were three eggs, laid without any nest, as the man informed me. They are very like those of our own Kestrel, but do not seem ever to have the crimson colouring, and are of course very much smaller."—E. N.

4. BARE-LEGGED OWL. *Gymnoglaux nudipes,* Cabanis, Journ. f. Ornith. 1855, p. 466. *Strix nudipes,* Daud., Vieill. (pl.), Shaw et Latham, nec Nilsson & Gould. (Plate I.)

This bird, so scarce in collections, seems to be the only Owl found in the island; and there even, its existence is known but to few. It appears to be very local, and to be confined to the so-called " gardens" by the sides of the streams, which are shaded by thick groves of Mangoes and Mammees, probably because in these places only it finds the shelter and retirement it needs; but it is possible that here it may not be uncommon, as amongst the dense foliage it may easily escape notice.

" A young bird, nearly full-grown, but still covered with down, was sent to me alive on May 30th, 1857, by the manager of the Great Fountain Estate, where it had been taken the previous day, in a hollow tree,—there being no nest or other bird with it. I kept it in a cage until June 23rd, during which time it hardly changed in its appearance, except that the quill-feathers showed themselves. It was peevish in its temper, and showed its displeasure by snapping its bill and uttering guttural sounds. It displayed none of the activity which so distinguishes some of the small Owls of Europe, but would sit, even at night, sulkily dozing on its perch. If a finger were held towards it, it would take no notice until it came within easy reach of its beak or claws, when the approach was resented by a vicious attack. If the



J. Smit lith.

M & N Hanhart imp^t

GYMNOGLAUX NUDIPES

whole hand were introduced with the intention of taking it out of the cage, it would generally fall over backwards, and clutch violently at the intruder with its talons, grasping firmly, and submitting to be thus lifted out. There were times, however, when it evinced a more friendly disposition, and it would then sit patiently on one's finger and endure to have its head stroked. Finding, from trials often repeated, that it showed little taste for birds or insects, I fed it almost entirely on small lizards (*Anolis*, sp. ?). These it invariably swallowed whole, head foremost of course. On offering it a well-grown lizard, it would try to seize it in its beak, as near the head as possible. If it succeeded in getting a good hold, it instantly grasped the body with one foot, and, keeping the animal straight, soon disposed of it; but if, as often happened, it missed its first aim, the reptile would generally attack the bird, seizing hold of it between the gape and eye with its tiny mouth. A struggle would then take place, the Owl going over on its back and endeavouring with one or both feet to pull off the lizard, the latter seldom giving way except with a mouthful of the former's facial bristles, which in this species are very long even in the young bird. On these occasions, as often as not, the reptile would have the best of the battle, and make his escape. A few days after I received this live bird, an adult, believed to be one of its parents, was shot and sent to me from the same locality. The stomach of this example contained insects only; its sexual organs were much injured by shot. At the time I believed it to be a male, but am now inclined to change this opinion."—A. N.

"A male of this species was brought to me from the Great Fountain Estate on May 11th, 1858, the stomach of which contained the remains of several beetles. On September 1st, I received a young bird which had been knocked down by a stone on the Estate Allendale; it was full-grown and feathered, with the exception of a small quantity of nestling-down on the back of its head. I was unable to ascertain the sex. I was told that, at the River and Great Fountain Estates, Owls were generally heard 'bawling' at sunrise; but I have been to those places at that hour, and listened for them to no purpose."—E. N.

Though there does not seem to be much doubt of this being the original *Strix nudipes*[*] of Daudin (Tr. d'Orn. ii. 199), yet it must be confessed that the descriptions given of it by Shaw (Gen. Zool. vii. 269) and Latham (Gen. Hist. B. i. 372, which is a vain repetition of Shaw's) are very inaccurate. As, too, Vieillot's plate of this bird (Ois. d'Am. Sept. pl. 16), which is the only one published, does not well represent this species, we are glad to be able to give here, by Mr. J. H. Gurney's liberality, a better figure of it from Mr. Wolf's pencil. The length is more nearly eight than "seven inches," as mentioned by Shaw; and it requires a lively imagination to convert the long mesial streak on each feather of the under parts into a "lyre-shaped spot." Most decidedly, too, the young birds are less "rufous" than the adults; and the belly, instead of being "whiter than in the full-grown bird," is of nearly the same colour as the back. Dr. Cabanis states (*loc. cit.*) that Dr. Gundlach has met with it in Cuba; and the Paris Museum contains specimens sent from Porto Rico by M. Maugé. There is a single bird in the University Museum at Edinburgh. Besides this and our own four examples, now deposited in the fine collection of *Raptores* at Norwich, we know of no others in this country.

In this species the irides are bright hazel, the bill horn-colour, palest at the tip, the legs and toes pale brown, the claws horn-colour. The female bird seems to be more rufous than the male, with the breast and belly not so thickly mottled; but as we have only two specimens which appear to be fully adult to judge from, these distinctions may be the result of age rather than of sex.

5. Barn Swallow. *Hirundo horreorum*, Barton (Baird's Rep. B. Pac. R. R. Survey, p. 308). *H. americana*, Wils.

"I observed two individuals of this species for the first time, Sept. 13th, 1858, and I continued to see some almost daily up to my departure from the island on the 28th of that month. They were generally hawking after the manner of our own familiar bird (*H. rustica,* L.), and, I think, could hardly be distinguished from it on the wing. On one occasion I saw several hundreds flying over a lagoon, intending probably to pass the night in the thick mangroves on its margin. From what I could learn, they do not winter in the island, nor are they seen there on their passage northwards in spring."—E. N.

---

[*] There is, we think, no doubt on this point, Daudin's name being founded on specimens procured by M. Maugé in Porto Rico, which are now in the Paris Museum, where we have had an opportunity of examining them.—Ed.

6. Belted Kingfisher. *Ceryle alcyon* (Linn.): Aud. pl. 77: Yarrell's Brit. B. 3rd edit. ii. p. 236.

Apparently a winter visitant, leaving the island late in April. It chiefly frequents the Mangrove-swamps and the mouths of the small streams, but sometimes fishes nearly half a mile out at sea. Its loud call has been well likened to the noise made by springing a watchman's rattle.

"The stomach of one I skinned contained shells of crabs."—A. N.

"I saw what I believe to have been a bird of this species on my passage home in October 1858, in lat. 26° 17′ N., long 57° 28′ W. It flew round the steamer several times within gunshot; and I could clearly make out the dark belt across the breast."—E. N.

The maritime habit of this species makes the occurrence of two examples in Ireland, as recorded by Mr. Thompson (B. Irel. i. 373), less surprising than might otherwise appear.

† 7. Black-and-yellow Creeper. *Certhiola flaveola* (Linn.) (?) "Sugar Bird."

Whether this be really identical with the *Certhia flaveola* of Linnæus, the type of which is usually supposed to be the bird from Jamaica, may very fairly be doubted. But so much confusion seems to exist among naturalists respecting the so-called species of the genus *Certhiola,* that it is very desirable not to make matters worse. And, as the specific value of the differences which exist between the "Sugar-bird" of St. Croix and the "Banana Quit" of Jamaica is by no means certain, it appears best merely to remark upon them, and to abstain from describing the former as distinct from the latter, especially, too, as, after an examination of a tolerably large series of skins from other localities in the British Museum and Mr. P. L. Sclater's collection, with all the advantage which Prince C. L. Bonaparte's *diagnoses* in the 'Comptes Rendus' (vol. xxxviii. p. 259) afford, it does not seem possible to come to any decided opinion on the subject. The following are some of the principal differences to be observed between the birds from St. Croix and Jamaica:—

ST. CROIX.	JAMAICA.
Adult male.—Top of head, nape, back and upper wing-coverts dull black. Rump with a small greenish-yellow ill-defined patch. White on outer webs of primaries occupying small space, and almost hidden by wing-coverts, hardly showing, even when the wing is open. Three outer tail-quills on each side tipped with a broad patch of dirty white. Throat lead-grey; broad stripe of black from gape, round the eye and above the ear. Edge of shoulder white or faintly tinged with yellow.	*Adult male.*—Top of head, nape, back and upper wing-coverts deep black. Rump bright canary-yellow, well-defined. White on outer web of primaries occupying a largish space, and forming a distinct patch, even when the wing is closed. Three outer tail-quills on each side tipped with a broad patch of clear white. Throat dull dark grey; narrow line of black from gape, above the eye and ear. Edge of shoulder bright yellow.

The females from both islands appear to be more alike. The young males, even when breeding, have the line over the eye brilliant yellow, and the grey feathers of the chin tipped with yellow. Adult females have the superciliary stripe white, and nearly resemble the males.

The bird from St. Thomas much more nearly resembles that from Jamaica than that from St. Croix, but has a much paler-grey throat.

In Mr. Gosse's pretty figure of this species (Ill. B. Jam. pl. xvi.), he has omitted a very singular and pleasing feature, namely, the prominent pale crimson or bright pink lips at the gape, which, while the bird is alive, form a striking contrast of colour with its plumage. These are brightest in the adult, but are also very conspicuous in the young bird. The colour is very fleeting; and generally by the time the skin is taken off, no traces of it are to be seen. This bird gets its name in St. Croix from its constantly entering the curing-houses at the different works through the barred windows; and managers and overseers give it a bad reputation for stealing sugar from the hogsheads: but we are inclined to think it is often attracted thither by the swarms of flies, which certainly throng there for the purpose of eating the newly-made *muscovado*. It is a very familiar species, haunting gardens and often entering houses, where, instead of appearing alarmed, as do most other birds under similar circumstances, it preserves great coolness, hopping gravely from one piece of furniture to another, and carefully exploring the surrounding objects, its short squat figure putting one perpetually in mind of the Nuthatches (*Sittæ*), to which group *Certhiola* must have some strong affinities. It generally keeps in pairs, and appears to breed from March to August, building its domed and often pensile nest, which has a small porch or pent-house roof over the entrance, in almost any kind of situation, but most generally at the extremity of a leafy bough. It sometimes seems to lay its eggs, which rarely appear to exceed three in number, before the nest is finished, rather to the discomfiture of the oologist, who delays inserting his finger into the structure while he sees one or both of the birds busy with a tuft of grass or cotton in their bills, until at last, losing patience, he examines the edifice to find the eggs already hatched. These are in shape elongated, and in colour white, blotched, particularly at the larger end, with rusty red. The nest is generally very untidy on the outside; it is composed of coarse grass or bents, with a good sprinkling of cotton without, and feathers in the inside. The birds are also fond of picking up rags and any sorts of odds and ends they can find about the houses, and adding them to the pile.

"I observed an instance in which two broods were reared from the same nest, with only an interval of ten days between the time the young left it and the laying of an egg."—E. N.

[To be continued.]

VII.—*On the Breeding of the Smew,* Mergus albellus, *L.*

By John Wolley, jun.

The first year I was in Lapland, 1853, it was important for me to find out the native, that is, the Finnish, names for the birds of the country. Of the ducks generally I soon learned to understand to which species each name referred; but there was one called *Ungĭlo*, concerning which I was for a long time in the dark. It was described as breeding in holes of trees, or in *tyllas*, that is, nest-boxes. It was a smaller bird than the *Sotka* (Golden Eye), but was able to turn that bird out of its hole, if it wanted it for itself; though some accounts told the reverse story. It had formerly been found not unfrequently on the Muonio River, and especially on the lakes through which the little Jeris-joki runs. On the former river, a little above the inlet of the Palo-joki, there is even an islet called after it, Ungilon-saari, on which, though there are still tyllas, the bird has not been known for a good many years. In the course of time I learned that the bird had a beak like a *Koskilo* (Merganser), and the colours of the male were described to me in a way that left no doubt it was the Smew. Still it required some selection of evidence to hold this opinion firmly; for instance, a woman talking to me imitated the cry of the bird, in doing which she used the syllables "u-u-ungel" with the music of the spring call of the Long-tailed Duck, and by her subsequent description clearly showed that that was the bird she meant, though it is usually known by quite another name, identical with, and perhaps borrowed from, the Swedish, *Alle*. This suggested to me that the name *Ungilo* may have been originally applied to the Long-tailed Duck, inasmuch as we find, in Ström's "Description of Sandmör," that the Long-tailed Duck is called *Angle-mager* (Hook-maker) on parts of the Norwegian coast, doubtless from its cry, connected with the time of its appearance when the sea-fishing begins*.

Nothing is more common than one and the same name being applied to different birds in different districts. Even this very name *Ungilo* is used for the Goosander in certain places on the Upper Torneå River.

Concerning the egg of *Ungilo* I made every inquiry. All the people who remembered it on the Muonio agreed that it was much less than the Golden Eye's, and was liable to be found in the same hole with eggs of that bird. As a consequence of this popular belief, I often had dwarf eggs of *Sotka* brought to me for *Ungilo's.* From one trustworthy man, Piko Haki, I heard that some ten years before he had found a nest and taken the eggs on sale for eating to a resident trader, who had asked him where he had got Hens' eggs. Now Hens' eggs are unknown in the interior of the country, where I was; but at Uleåborg, where the trader had been familiar with them, they are about the size of our Bantam's eggs. This gave me the best indication I had yet met with of the probable appearance of the egg, and I told my servant-lad Ludwig in confidence that, when we at length should get *Ungilo's* eggs, they would be very like Wigeon's, though probably more white. Of course this was not to be talked of, as it might lead to attempts at imposition. It is possible that the small comparative size of the *Ungilo's* eggs, and the habit of the bird turning out the Golden Eye, had made it little liked by the people, and that they used to catch it on its eggs and kill it, as they do Hawk-Owls and Tengmalm's Owls.

---

* The Finnish names of things are often nearly related, as the language generally is, to the Lappish. For northern productions it is likely that the Finns, the later comers, would often borrow from the Lapps. The Lapps call the Long-tailed Duck "*Hanghi*," a name probably formed from the ear.

However that may be, year after year passed by, and I never once, out of the tens of thousands of duck-like birds that came under my notice, caught sight of a Smew. In time I came to hear from people who came from the Sodankyla district, a good way to the east of Muonioniska, that *Uinilo,* as it was there called, bred at more than one lake in that neighbourhood. In 1856 I sent a very clever Lap, Martin Pekka, to this quarter for the egg-season, but he could not meet with *Uinilo.*

In 1857 the clergyman of Muonioniska, Priest Liljeblad, had been transferred to Sodankyla; and in the spring of this year, an intelligent young man, Carl Leppajervi, went from Muonioniska to be assistant-schoolmaster with his former teacher. I gave Carl strict charge to make every inquiry for *Uinilo* in that part of the world and of travellers from Kemi Trask. One day (the 30th July 1857), as I passed by the homestead of Regina's Calle, the famous steerer of the Muonio Falls, there was given to me a wooden box, such as is used in the country for carrying butter on a journey, addressed "To the English gentleman Joh Woleg in Muoniovaara." The box was not tied nor secured in any way; and on the lid being opened, there first appeared a well-written Finnish letter, of parts of which the following is an exact translation:—

"Matthias Lakso of Made-koski-kyla, on the Kitinen-joki, five miles (Swedish) from Sodankyla, has found on the Liesi-joki eggs of Uinilo, and has brought to me three eggs, on which is written a number like this." [Here follows a facsimile of the figure 1 on the eggs. It appears from Hermelin's map, that the Kitinen-joki, of which the Liesi is doubtless a tributary, runs into the Kemi-joki a little north of Sodankyla.] "They were found on the 8th day of the Summer-month (June) 1857. Of an old birch trunk the wood was rotted away, and it was left hollow, forming a hole in which they were." [The expression used involves the idea of the trunk being still standing.] "There were two men in company, and the other man has given four eggs to the priest: there were seven of them; but there was no down brought. * * * * The Uinilo was also killed, and with the eggs it too is sent.—Carl Leppajervi. First day of the Hay-month (July) 1857. And the priest will send the four Uinilo's eggs, if you send him four eggs of *Kuukili*" (*Garrulus infaustus*). "This Uinilo was taken to the priest, and he wants for it 20 copecks."

The next, or probably the first thing in the box that struck my eye, was a stiff-necked skin of a female Smew, with hatching spots on its under side; then I came to five or six much-injured eggs of Greenshank and other birds; and lastly, at the bottom of all, well-wrapped in tow, were the three Smew's, blown each with two holes, which I afterwards found it safe to round off with a drill. The eggs rather staggered me at first sight, they were so like Wigeon's. From time to time I held consultations over them. On comparing them with a series of something like fifty Wigeon's eggs, I found that they were pretty nearly of the same size, though rather below the average. They were flattened at the small end more than any of the Wigeon's, and they had less of the yellowish tinge about them, so that persons not much used to eggs could pick them out of the lot; but all these peculiarities might be accidental, though it seemed remarkable that any woodsman trying to pass off Wigeon's eggs for Smew's should have been able to find so abnormal a nest. But it was not very long before I satisfied myself that there was a decided difference of texture. This could be perceived on an ordinary examination; but it became very striking on exposing the egg to direct sunshine and examining the penumbra, or space between full light and full shadow, with a magnifying glass—the sharp "*mountainous*" structure of the Wigeon's egg was strongly contrasted with the lower and more rounded character of the elevations in the Smew's. It is my intention to endeavour to illustrate this with the help of photography. Further, I tried the sense of touch: scratching the egg with the most sensitive of my finger-nails I could at once perceive the greater roughness of the Wigeon's. Ludwig, though his hand was by no means of the finest, did not make a single mistake in some ten trials with his eyes shut of various Wigeon's eggs and the supposed Smew's, and one or two other people were equally successful. I now felt no doubt that I had true eggs of the Smew. The ivory-like texture of the Goosander's egg was a pretty parallel to the character of the Smew's.

In the meantime, on August 4th, I sent a letter to Pastor Liljeblad, accompanied by a box with four beautiful eggs of the Siberian Jay, packed as eggs should be packed, and enclosing money, amongst other uses to pay for a thoroughly trustworthy man to travel to Made-koski-kyla, to inquire into the particulars of the capture of the Smew and its eggs, to himself visit the birch trunk, and to bring away the down which would be lying at the bottom of the hole. I also wrote to Carl Leppajervi. In a month after I wrote, I hoped an answer might arrive; but I was disappointed, and I was obliged to leave Muoniovaara for England on the 11th of September. I had not been very long in England when I received a letter enclosing communications from Pastor Liljeblad and from Carl Leppajervi, which had arrived at Muoniovaara on the 16th of September, and also enclosing a specimen of the down, which my agent had picked out of the heap of touch-wood sent with the letters from Sodankyla.

The priest told me in Swedish that he had asked me for the eggs of the Siberian Jay, only because he had for many years promised a friend in the South to do his best to procure them, and that the only chance left for him was to get them of me—he had been so many times wilfully deceived by the country people; that he now sent me the four *Uinilo's* eggs, which had been brought to him. He added, in answer to a question of mine, "I think that the men who came with them, if not exactly of the best-behaved sort, are at least so far to be trusted that they brought the true ones. Kalle went at once to Made-koski." Kalle's letter said in Finnish, "I have been to Made-koski for the Uinilo's down, but there was not much of it there. The birch stump was open at the top, and who knows but the wind may have carried some of the down away? Matthias Lakso took away a little from what I have sent, to see if he could make out himself that it was Uinilo's. That Uinilo was caught actually from the top of those eggs; indeed it is true. * * * * I saw that in that birch stump there had at some other time been eggs, for there were old pieces of egg-shell. Written 29th of Harvest-month (August) 1857.—Karl Leppajervi."

I was told by my man in Lapland that these four eggs had been blown with only one hole, sufficiently well made, but that a great part of the yolk had been left inside. They were also stained outside; but he had cleaned them out, rounded the holes with a drill, and made a good job of them. The down sent to me I found to agree generally with that on the body of the female Smew; but I did not make a careful examination, and I have not yet made it.

At the end of October 1858 I received these other four eggs. I found that the character which I had previously observed, but which I had originally seen on only one of the first three, was common to all the other four, namely that shown by the presence of a thin calcareous covering outside the egg-shell proper, apparently of the same nature as that which is so conspicuous in the egg of the common tame Swan. Some attempts had been made in Sodankyla, as my man told me, to scrape this off.

The following are the dimensions in two directions, with some description, of four eggs which are now before me, picked out of the six which remain in my possession out of the nest of seven:—

	Greatest length.	Greatest breadth.
1st egg . .	2·04 inches.	1·52 inch.
2nd egg . .	2·05 „	1·47 „
3rd egg . .	2·04 „	1·43 „
4th egg . .	2·04 „	1·42 „

Of the first egg, the widest part is exactly halfway down; but in one direction the inferior fulness of the curve points out which is the small end of the egg; though, were there cut out of the middle of each end a piece of the shell bounded by a circle of a quarter of an inch in radius, I think, as the pieces lay upon a level surface, the piece from the small end of the egg would be found less elevated than the other piece. In other words, the small end of the egg is even more flattened than the large end, though the flattened area there is not so extensive as that of the large end.

Of the second egg, the conjugate diameter is nearer to the large end than it is to the small end, the proportion of the distances being as 9 to 10. The curve towards the small end is less suddenly changed than in the egg last described, though still the present egg is very broad at the small end.

The third egg is equally flat at the small end with the second; but it is rather less curved from the broadest part to the commencement of this flat end.

The fourth is still narrower than the last, before the flatness of the small end commences.

I have previously alluded to the texture and the colour of these eggs.

I have seen a MS. list of birds from the German naturalist Herr Hoffmansegg, then resident in Archangel, from which it appears that *Mergus albellus* occurs in that neighbourhood, which is considerably more southerly than Muonioniska, or Sodankyla. As I did not hear of it on the north or north-east coast of Norway, and as it is not known to breed in Sweden, I should be inclined to suppose it generally an eastern and northern bird.

It is worthy of note, that the very pale colour of the down of the Smew seems to be connected with its choosing holes for breeding. No bird of the duck kind that has white down, as far as I know, places its eggs in an exposed situation.

The Goosander, Golden Eye, Sheldrake, birds differing much from one another, have all white down, and all lay their eggs in holes of trees when such are to be found, whilst one of them at least has well-coloured eggs.

Beeston, Nottingham,
December 20, 1558.

VIII.—*Recent Discoveries in European Oology.*

By William C. Hewitson.

(Plate II.)

It is with very great pleasure that I find myself again associated with old friends and fellow-labourers in endeavouring to promote a favourite and delightful study.

Birds' eggs, though beautiful objects in themselves, and amongst the first of God's glorious works which gave utterance to that burst of joy which has never forsaken some of us through life, may be made of the greatest use in ornithological study, and would of themselves alone form a foundation towards a general arrangement of birds.

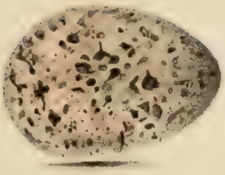
For the eggs of the three species now figured and the notes, which accompany them, I am indebted to the Rev. H. B. Tristram. They have been discovered since the completion of the third edition of the 'Eggs of British Birds,' and that of the *Cursorius* is a most valuable addition to our oological knowledge.

I have adopted those specific names for the three species by which Mr. G. R. Gray has shown that they were first christened. It is quite time that English ornithologists should adopt that golden rule in nomenclature, the right of priority, from which no naturalist should ever deviate.

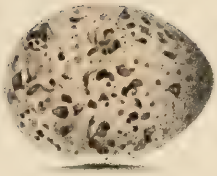
Cuculus glandarius, Linn. Great Spotted Cuckoo. Eggs, Plate II. figs. 1, 2.

The following most interesting account is from the pen of Mr. Tristram. It does not quite settle the question as to the nesting habits of this bird, and does not exonerate it beyond a

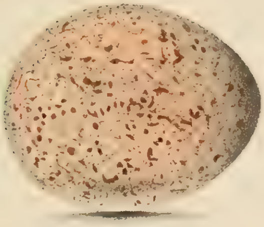
4



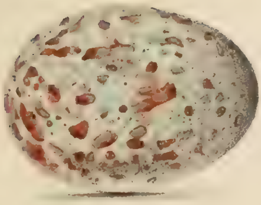
5



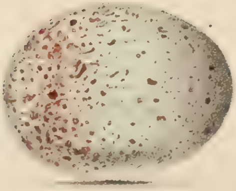
3



1



2



W. C. Hewitson del et lith 1858

Printed by Hullmandel & Walton.

doubt from the stain which is attached to the character of our well-known species. Mr. Tristram, although inclining to the belief that the *C. glandarius* rears its own young ones, acknowledges that the eggs are so like those of a magpie of the country, in the nest of which it lays them, that the eggs of the two birds for a time passed his critical eye, and were labeled as those of one and the same species. The eggs are certainly well-adapted to represent those of a magpie, but are still more like those of our own thrushes. That represented in fig. 2 is a facsimile of the egg of the blackbird, both in size and colour. That in fig. 1, except that it is larger, would pass for the egg of the ring-ouzel. Mr. Tristram says, "In our expedition of the spring of 1857, we were fortunate enough to pitch our tents, for upwards of three weeks, in a valley between two of the southern spurs of the Eastern Atlas range, which proved to be one of the very few breeding localities of the Great Spotted Cuckoo as yet discovered in North Africa. In the middle of May we had noticed it several times, but could obtain no clue to its breeding-habits, until one day I had extended a long ride as far as a French outpost, when an officer showed me a Cuckoo he had just skinned, and gave me an egg he had taken from the ovary ready for deposition. He told me that in a certain wood near our camp he had in former years taken nests, and had never, during a fifteen years' residence in Africa, observed the bird in any other district, and that even here it seemed confined to very narrow limits. Within a very few days after this a nest rewarded our search, containing a single egg ready to hatch (May 20th): the nest was in the top of a tree in the forest. After this we found several other nests. I am aware that M. Brehm*, who has described the habits of this bird in Nubia, attributes to it the same evasion of domestic duties of which our *C. canorus* is guilty, and states that it makes use of the nests of the *Corvidæ*, whose eggs its own in some degree resemble as to colouring. But, as far as my own observation goes, I cannot concur in the accusation of its use of a foundling hospital, further than that I believe it does appropriate and repair the deserted tenements of *Pica mauritanica* and *Athene meridionalis.* In this view I am borne out by my companions Mr. O. Salvin and Mr. W. H. Simpson. We all devoted much time and care to the solution of this Cuckoo's habits, and never found it laying its eggs in a nest already occupied.

---

* See Cabanis' Journal für Ornithologie, 1853, p. 144, and Zoologist, xx. 3987.

"On one occasion one of our Arabs came and told me he had found a nest of the '*Burroo Burroo*' (its local name) in the forest. I accompanied him to the spot. The male bird took flight from a branch of an adjoining tree; and in the top of a gnarled old terebinth, where a branch had at some period been rent from the trunk and formed a cavity, I espied a nest like that of the little owl (certainly not that of a magpie), and protruding therefrom the long tail-feathers of my friend. She flew screaming off, and I found left two eggs, set rather hard. On another occasion a nest of four eggs, fresh, was brought us. We found but this one nest of four eggs, one of three, two nests of two each, and two of one each. I have been somewhat prolix on this question because our experience is so different from that of Dr. Brehm. A friend has suggested that perhaps the Cuckoo, before depositing her eggs, ejects those of the rightful occupant.

"It is fair to add, that on unpacking our collections some months after, it was found that a few days before discovering the Great Spotted Cuckoo's nest we had placed two of its eggs along with two undoubtedly those of *Pica mauritanica,* and labeled them as being all of the latter bird, and of one nest. These four eggs appear by our notes to have been brought in by our Arabs, and it is quite possible they may have placed the eggs of two nests, which they took to be of the same species, together, to save themselves trouble in bringing them home; and that we, who did not value the magpie's eggs, had stowed them away without any particular observation.

"*C. glandarius* has three notes: a call-note something like that of *C. canorus,* probably used by the male; its cry of alarm, something between that of the Jay and the Roller; and its third note, '*Wurree Wurree,*' from which it doubtless derives its Arab name, just as the common Cuckoo is called by them '*Tookook.*'"

Cursorius gallicus, Gmel. Cream-coloured Courser. (*C. isabellinus,* Temm.) Egg, Plate II. fig. 3.

Although rare in Europe, this species has for more than half a century been recorded as a British bird. For the discovery of its eggs, ornithologists are indebted to the Rev. H. B. Tristram, who has kindly sent me the following notes: "Although during the winter of 1856–57 I penetrated several hundred miles into the Algerian Sahara, and beyond its limits as far as between latitude 31° and 30°, yet this bird only once came under my observation, being evidently for the most part only a summer migrant to those regions. In the month of June 1857, I twice met with small flocks of them on the Hauts plateaux between Biskra and Batna, to the south of Constantine. During the previous summer of 1856, I had met with the bird several times in the western Sahara, north of Laghouat, and especially in the neighbourhood of Ain Oosera, a solitary caravansary in the desert, kept up by the French government as a military halting-place.

"Though certain that the birds were breeding there at the time, I was unable to detect their nest; but shortly after my departure, the keeper of the caravansary, who had assisted me in my search, and who had in previous years frequently taken the eggs, and cooked them as omelets along with those of the *Pterocles setarius,* found the nest and sent me the eggs, three in number. According to his account, the Courser always adheres to this number, as indeed might have been expected from the character of the bird.

"It makes no nest whatever, but deposits its eggs on the bare soil in the most arid plains."

Eggs sent from Tangiers, deposited by birds in a state of confinement, and consequently smaller and more faintly coloured than the one now figured, are in the collections of Mr. Gurney and Mr. A. Newton. The one figured bears a very striking resemblance both in shape and colour to some of the eggs of the Norfolk Plover. The delicate undulations are not easily imitated in a drawing.

Turnix africanus, Desfont.; Gray's Genera, p. 510. (*Hemipodius tachydromus,* Temm.) Andalusian Quail. Eggs, Plate II. figs. 4, 5.

This species has been introduced as a British bird by Mr.

Yarrell, and figured as such in the Supplement to his work, from a specimen said to have been killed in Oxfordshire. Mr. Tristram says, that " although not rare in the wooded districts of northern Algeria, its nest had, until last year, eluded the researches of all the French collectors. Various eggs had from time to time come into the hands of the Paris dealers, the produce of birds in captivity; but these two eggs are, as far as I can ascertain, the very first from a bird in a state of nature. They were taken by Capt. Loche, of the French army, in Kobah forest, on July 11th, 1857. The nest contained seven eggs, nearly fresh. It was placed on the ground in the midst of a dense thicket of underwood, most ingeniously concealed, and where no dog could penetrate to put up the bird.

" It was in such situations that I had frequently before found the Hemipode, which never occurs in the plains or in the desert. When disturbed, it is scarcely possible to make it take wing. When beaten out of a bush, it half runs, half flies, to the nearest cover, somewhat after the manner and with much of the appearance of Baillon's Crake. I do not believe that it migrates in the Atlas, as specimens are occasionally found at all times of the year; nor does it appear ever to congregate, either in flocks or bevies, after the manner of the Quail, to which, indeed, in all its habits it affords a striking contrast.

" The female is very much larger and generally more brilliant in colouring than the male, and is at least one-third heavier than her mate. I was out with Capt. Loche when he discovered this nest, of which he kindly allotted me three eggs."

Mr. Gould has figured the two sexes as of equal size, and says that it is difficult to distinguish them by their plumage each from the other.

The eggs bear but little resemblance to those of other gallinaceous birds. The shell is delicate and thin, and touched with a neutral purple tint, which gives them some likeness to those of the Pratincole.

IX.—*Review of* Mr. Bree's '*Birds of Europe not observed in the British Isles.*'*

It is a matter of great regret that the ornithology of Europe has been hitherto so little studied by British naturalists. This fact has always been regarded with wonder by our continental brethren,—very naturally, too, when they think that of the troops of tourists who annually swarm over Europe, how vast a majority are our fellow-countrymen, and reflect that in England the study of Natural History is scarcely pursued but by amateurs for their own gratification. We confess that it is not easy to account for this. Perhaps the chief cause is the comparative rarity with which birds present themselves on the Continent. How often, when questioning a friend just returned from his summer's trip to Holland, up the Rhine, or among the Alps—or, it may be from exploring the passes of the Pyrenees, the cones of Mount Etna, or the fjelds of Norway—as to what he may have observed of the feathered tribes during his rambles, has the answer been, "O, there are no birds abroad!" and thus it has come to be believed that the Continent is nearly as *unaviferous* as Lake Avernus itself! Yet the birds are there, if travellers will but look for them, and birds, too, possessing great interest even to those ornithologists who confine their attention solely to the species found within the compass of the four seas. But we trust that a spirit of more extended research is growing up, that soon the continental reproach may be taken away, and that our fellow-countrymen, as regards Natural History, may no longer be sneered at as "*penitus toto divisos orbe Britannos.*" The Englishman is catholic enough in his other sympathies: he knows to a nicety the points wherein St. Peter's surpasses St. Paul's, can compare the merits of York Minster and Cologne Cathedral, has an opinion of his own as to the best means of preserving the faded remains of Leonardo da Vinci's master-piece, just as he has with regard to the right mode, if any, of restoring the national pictures in Trafalgar Square; he pronounces authoritatively between Mr. Wailes's stained glass and that of Munich; would be nearly as soon accused of a false quantity as of mistaking Dresden china for Sèvres; or, if of a less æsthetic turn of mind, can tell you, without referring to his "Murray," the population of Hamburg or Naples within an odd hundred, the height of the Hospice of St. Bernard above the sea, the depth of the Fall of Terni or the length of the Loire. All these he is conversant with; and, as regards the natural history of his native islands, the British ornithologist might be able to tell you which of the western counties never re-echo the notes of the Nightingale, at what elevation the haunts of the Ptarmigan begin in Scotland, or whether the Jay ever visits Ireland. But ask the same man whether he considers *Falco concolor* a European species, or if he can describe the differences between *Fringilla hispaniolensis* and *F. cisalpina*, and he will stare as much as if he were being submitted to a competitive examination by the Civil Service Commissioners. In fact, M. Temminck's 'Manuel d'Ornithologie' is nearly the only work on the birds of Europe (for Mr. Gould's splendid publication deters the general public by its expense) the existence of which English naturalists* commonly recognize; and their practical knowledge of this book has been chiefly confined to the accounts of those species which are found in their own islands. It was therefore with no small satisfaction that we first heard of Mr. C. R. Bree's intention to publish that which forms the subject of the present notice, believing, as we do, that it is impossible to get a right notion of even our indigenous birds, without those illustrations which a knowledge, more or less extensive, of the ornithology of the Continent alone can furnish. We do not wish it for a moment to be thought that we undervalue the labours of those ornithologists who have confined their writings to the elucidation of those species only which occur in the British Isles. Our Pennants, Montagus and Bewicks, our Yarrells, Thompsons and Macgillivrays are, and will justly continue to be, held in high estimation;

---

* *A History of the Birds of Europe not observed in the British Isles*, illustrated with accurately-coloured Plates. By C. R. Bree, Esq. London: Groombridge and Sons. [In course of publication.]

---

* We beg to be understood, that throughout this article we shall use this and the similar terms of 'ornithologist' and 'zoologist' in the widest sense possible, comprehending in it every one whose tastes or profession render him partial to the study of Natural History.

but it is remarkable that the regard in which they are held is exactly proportionate to the knowledge they possessed of exotic forms.

The idea of a work relating only to those European birds which do not occur in this country had, if we mistake not, been entertained by two or three of our ornithologists. Whether they or Mr. Bree would have performed the author's part best, we do not care to inquire. He is first in the field, nay, at present alone there, and therefore entitled to our undivided support. We have little doubt that the low price of his book—to say nothing of the mode of publication, which spreads even this small expense over a considerable period of time—will obtain for it a very extended sale, and will, we trust, make the subjects of it extremely popular. We do not look for a scientific work—we even fear we must be content to accept error for truth occasionally; for though we fully believe Mr. Bree to be a pains-taking man, heartily desirous of performing his self-imposed duties with credit to his reputation and satisfaction to his subscribers, yet, as the most honest man will now and then prove an unjust judge if he be not a good lawyer, so we are afraid that Mr. Bree's very best intentions have not always saved him from mistakes, into which, perhaps, a man better up in his subject, even with less conscientious striving after accuracy, would never have fallen.

We have a right to expect that Mr. Bree should, as his prospectus announces, carefully collate his information from the best authors; and on the whole we think he has done so; but that he should be exempt from the common failing of compilers, is of course not to be hoped for.

The seven parts of Mr. Bree's work already published contain the European non-British *Vulturidæ* and *Falconidæ*. We do not wish to prejudge the remainder of the book, but we cannot but feel a lurking suspicion that we may have seen the best portion of it. Mr. Bree has fortunately obtained the assistance of one whose knowledge of the Raptorial Order is unquestionably superior to that of any other man. An attentive reader of 'The Birds of Europe not observed in the British Isles' will have no difficulty in recognizing the suggestions and ideas of Mr. John Henry Gurney in many places where no mention is made of that gentleman's name; and we fear that after the completion of the next family, the *Strigidæ,* we shall have to look in vain for that discreet Mentor, of whom, we suspect, our Telemachus stands greatly in need. Mr. Bree describes in these seven parts twenty-two species, which, as far as our knowledge at present goes, seems to be *about* the number of European Diurnal Raptores not to be found in Britain. But then we should strike out without hesitation a species which our author admits, and perhaps replace it by another not hitherto included in the European list. It is true that one or two of these rest upon "dealers' authority," or rather, we should say, the authority of naturalists, to support which, dealers always have specimens at hand from the desired localities. Such an instance is, we take it, the case of the Sociable Vulture (*Otogyps auricularis,* Gray), of which, as it has the credit of occurring in Greece, examples may usually be bought, said to have been obtained in that country, with the localities and dates marked on their labels, for aught we know, in the letters Cadmus gave, and according to the calendar Meton instituted. But of this particular bird two examples are stated as having occurred in Western Europe, one of which was a few years since alive at Antwerp; and anyhow we think it may be pronounced to be an occasional visitant, and therefore admitted among the number. The Cinereous Vulture (*Vultur monachus,* L.)—the "Vautour Arrian" of our neighbours—has a much better, nay, an undoubted claim to be included, rare though it be. We beg to add Albania as a locality for it to those hitherto enumerated, on the testimony of a roving and bird-loving friend, who not long since was on a shooting excursion in that country, and saw there a "big black fellow" about sixty yards from him. The *Vultur kolbii,* a phantom which once haunted the European list, has now long since been laid; and our author, very properly, shows no disposition to raise him again. With the help of quotations from Bruce and Tschudi, Mr. Bree discourses eloquently respecting the Bearded Vulture (*Gypaëtus barbatus,* Cuv.), the pride of European plunderers; but, considering that by many naturalists the Gypaëte from Abyssinia is regarded as a distinct species, we think him hardly prudent in referring Bruce's entertaining anecdote to the bird more used to civilized and persecuting man, without giving his readers due warning that, after all, it may not be strictly applicable to the subject of his notice. He omits also to mention that the rich tawny hue of the under surface in some individuals of the Lämmergeyer is probably owing to a stain, the effect of bathing in muddy water or of rolling in the sand with wet plumage; certainly the specimens we see from the snowy peaks of the Alps and Pyrenees are without any trace of this brilliant colouring.

We now come to the *Falconidæ*; and we are especially pleased to find Mr. Bree according a place to the true Gyrfalcon (*F. gyrfalco,* Schl.), which we consider to form a race, to call it by the least worthy name, perfectly distinct from either the Greenland or Iceland birds (*F. candicans,* Gm. and *F. islandicus,* Sab.), with which it has so often been confounded. But our gratification is somewhat impaired by his insisting on calling it *Falco gyrfalco norvegicus,*—not so much on the ground that the binominal system of nomenclature should be strictly adhered to (for we consider that its advantages are so universally recognized, that a trifling deviation from the letter of the law can make no material difference), as because this name would imply there was also a "*gyrfalco*" not "*norvegicus*." Naturalists are apt to forget that, if any respect should be shown to old authors, it is especially in the case of these noble birds, which at all times and in all places were the companions of our forefathers, and whose every peculiarity was studied in a manner that now-a-days no one, except an occasional votary of the ancient recreation, has any conception of. No falconer in time past or present would ever think of calling an "Icelander" a "Gyrfalcon." With him the Gyrfalcon is, and always has been, the large falcon obtained from Norway, or accidentally in more southern countries, with dark, almost Peregrine-like cheeks, a stout body, short tail, and other distinctive marks which it is unnecessary here to describe; and to apply its proper name to the denizen of another land sounds to him as irregular and unmeaning as when we hear our Transatlantic cousins call a bird akin to our Fieldfare by the familiar name of "Robin." It must be remembered that many of the earlier naturalists, if not falconers themselves, yet had opportunities of observing the peculiarities of each bird of prey in a manner not possessed by us. To suppose that they did not apply in the closet what they learned in the field, would be to deny them common sense. Hence they are still to be regarded as good authorities on these points; and there can be no manner of doubt that all the species of *Falco* described by Linnæus and his contemporaries were founded not more on any *diagnoses* of their own than upon the traditions of falconers. The truth of this, every day's experience tends to confirm. At the present time, indeed, many people have but a faint idea of what a Gyrfalcon is*; but we beg to assure our readers that the different words "Gyrfalco," "Gyrfalcon," "Gerfaut," and "Geierfalke," should never be applied to any but the great falcon of Scandinavia; and we repeat that the calling this bird *F. gyrfalco norvegicus* signifies that there is a *F. gyrfalco* from some other country, which is putting upon the name of old writers a meaning it will not bear.

That the true Gyrfalcon has occurred in this country, we certainly think probable; but it must be borne in mind that nearly all the large northern falcons killed here are young birds of the year, and that it is not easy, though, we think, always possible, to detect the Icelander from the Gyrfalcon when immature. With all due deference to Mr. Gurney's opinion as quoted by Mr. Bree, we believe that the late Mr. Charles St. John was right in calling the bird killed in Ross-shire in 1851, which has since passed into Mr. Gurney's possession, an "Iceland Falcon."

We are further much indebted to Mr. Bree for keeping distinct the long-confounded Saker and Lanner (*F. sacer*, Gm. and *F. lanarius*, Schl.). The latter bird has a good claim to be included in the British list; for Lewin's figure (Br. Birds, i. t. 17) seems referable only to this species, and the subject of it was taken in Lincolnshire: but we know of no other instance of its occurrence here unaccompanied by considerable doubt. Its proper *habitat,* besides central and southern Europe, appears to be North Africa; and it is often sent from the neighbourhood of Tangiers. It also occurs in Egypt, where, however, the very nearly allied *F. biarmicus* of Temminck is also found. It is certainly distinct from the *F. barbarus* of Linnæus, and, as Dr. Schlegel says, also from the *F. peregrinoïdes* of Sir Andrew Smith, a truly South African bird. The Saker is most likely the large falcon used in the Lebanon and on the plains of Assyria for taking hares and antelopes; its nearest ally seems to be the *F. jugger* of Dr. Gray, which wanders occasionally from India, its proper home, to Egypt, where it has been called *F. tanypterus* by the late Dr. Lichtenstein.

---

* We lately found, in a somewhat celebrated museum in this island, until a few years since presided over by a naturalist whose memory is still dear to his disciples, an example of the North American Goshawk (*Astur atricapillus*) labeled as a Gyrfalcon!; and to make the matter worse, this was, we suspect, under its rightful appellation a type specimen of one of the best ornithological works in the English language, and actually the subject of a very accurate plate therein!!

We regret that our author has not given figures of the Eleonora Falcon (*Hypotriorchis eleonoræ,* G. R. Gray) in the extremes of both plumages; for the only two plates of it are in works not by any means accessible to most European naturalists. We have heard a curious story relating to this species breeding, some years ago, in society on an island off the Algerine coast, which was turned into a convict-station by the French government, to the utter destruction of the whole colony, every bird being turned into *gibier* by the new settlers. Of the Lesser Kestrel (*Tinnunculus cenchris,* Frisch) we have nothing particular to remark, excepting that its eggs are generally found representing those of the Orange-legged Hobby (*Erythropus vespertinus,* Brehm) in most collections.

Mr. Bree has included the South African Red-legged Hawk (*Micronisus gabar,* G. R. Gray), upon good grounds; but in his list of its synonyms he has comprehended "*Sparvius niger,* Vieillot; Gal. des Ois. i. 22," and "*Accipiter niger,* Gould, Syn. B. of Australia, pt. 3. pl. [43.] f. 1." Now both these refer to a perfectly distinct race, or probably species—the Sooty Hawk, which differs altogether from the former both in colouring and range. Our author remarks with regard to this species, "There is no point about which we should be more rigorously careful than simplicity in nomenclature." In answer to this we say that simplicity is not promoted by such an inaccuracy as he has been here guilty of, and that what he declares to be "a manifest absurdity" has been much increased by his own want of attention.

Respecting the Pale-chested Harrier (*Strigiceps swainsonii*, Smith) we have no comments to offer; and next we arrive, according to Mr. Bree's arrangement, at the Eagles.

Of the Imperial Eagle (*Aquila mogilnik*, Gmel.) we cannot commend the figure. The head, neck and back are represented of a colour far too light, and this spoils the contrast otherwise afforded by the snowy scapularies.

On Bonelli's Eagle (*Aquila fasciata*, Vieill.) we have no remark to make; and with regard to the Booted Eagle (*Aquila pennata*, Gmel.), only to suggest that in the extract, though correctly quoted, from Mr. Tristram's 'Catalogue of Eggs collected in Algeria in 1857,' that gentleman must surely have intended exactly the contrary to what he wrote; for in what way an Eagle differs from a Buzzard "on the wing" we are at a loss to imagine, though, "in repose," the long flat head of the former is sufficiently unlike the short rounded one of the latter.

The claim of the Tawny Eagle (*Aquila nævioides*, Cuv.) to be considered European rests at present solely upon a trophy of the Russian war, an example having been obtained in the Crimea by Captain Blakiston during its occupation by the Allied Armies. Now though it is extremely probable that, where such large numbers of eagles were gathered together, this African and perhaps (for we cannot, without some degree of hesitation, look upon the Indian *Aquila vindhiana* of Franklin as exactly the same) Asiatic species should appear among them, yet it is very desirable that this specimen, now we believe in the Museum of the Royal Artillery Institution at Woolwich, should be examined by some experienced ornithologist. We understand that the species is extremely common in the Atlas; and therefore its occasional occurrence on the northern shores of the Mediterranean may be expected.

We rejoice to see Pallas's Eagle (*Pontoaëtus leucoryphus*, Pall.) done justice to, as it is by our author; but it is unfortunate that he has not given us a figure from a European specimen, or at least from one not Indian. The late Mr. H. E. Strickland's collection appears to have contained such an example; and we cannot think that its present possessor would have objected to lend it for Mr. Bree's use, particularly, too, as the distinction between the Indian "Mace's Eagle" (*Pontoaëtus macei*, Temm.) and the present has never been shown in any plate.

The most serious fault we have to find with Mr. Bree is for propagating a terrible error, by continuing (after the manner, it is true, of certain authorities who in most cases fully deserve attention) to annex the American Bald Eagle (*Haliaëtus leucocephalus*, Linn.) to the European list, from which Dr. Schlegel, as we have always thought, most properly erased it. But our author does not seem to have given himself the trouble of attending to the reasons adduced by that careful writer. It is true he does not seem to attach much credit to Nilsson's statement (which is undoubtedly incorrect) of its being commonly met with in Scandinavia; but he says, "It is generally believed, however, to occur accidentally in Europe. One male, as reported by Degland, has been killed in Switzerland, a female in Würtemberg; and it is stated by Brehm to appear sometimes on the sea-coast of Germany." Now, if Mr. Bree will but turn to the 'Revue critique des Oiseaux d'Europe' (page 27), he will find, "Pour ce qui regarde les individus tués, à ce qu'on prétend, près de Stuttgart et de Zurich, ces individus n'ont jamais été décrits par aucun naturaliste, ce qui me fait penser que ce n'étaient tout simplement que de très-vieux individus de l'aigle-pêcheur commun, espèce que l'on a, comme le sait tout-le-monde, long-temps confondue avec celle d'Amérique du nord." What are these "individus," but the birds reported, long before Degland's time, to have occurred in Switzerland and Würtemberg? for, we take it, our readers do not require to be informed that Zurich is an important city in one country, and Stüttgardt the capital of the other, though Mr. Bree does not seem to be aware of it. As to good Pastor Brehm's statement of this species appearing on the sea-coast of Germany, we venture to suggest that the only locality where this is possible would be that part of the Confederation indicated as the scene of the discovery of the child by the shepherd in the 'Winter's Tale,' before Sir Charles Hanmer and Mr. Kean changed "Bohemia" into "Bithynia." But our author evidently thinks that his strong point is the capture in the middle of Russia of the two Sea Eagles with all their "heads and necks, as well as tails, as white as snow," on the evidence of Dr. Nordmann, which to our mind tells the other way:—"After having compared them carefully with other Sea Eagles killed in the same locality, he considered them to be old individuals of *F. albicilla,* not admitting any specific difference between it and *F. leucocephalus.*" Now it is quite possible that at that time Dr. Nordmann had not had much experience of the Bald Eagle, and therefore was not aware of the great distinction between it when adult and the common Sea Eagle. But we feel quite sure that, acute observer as he is, had he really got hold of an *old* American bird, he would never for a moment have imagined that it was identical with the European one, and accordingly we believe that the specimens obtained were not examples of the *H. leucocephalus.* We have seen individuals of *H. albicilla* from the Volga, with extremely pale heads; and we can well imagine that his birds were like them, the similitude to snow existing only in the fancy of the Muscovite ornithologist. This is by no means so improbable as at first sight would appear. In a state of nature, and under a favourable light, we ourselves have seen the common Sea Eagle with a head and neck of a whiteness that absolutely startled us at the first glance; for the locality was not so very far removed from those Norwegian islands where Boie asserted that *H. leucocephalus* bred: but that it was only *H. albicilla,* our faithful telescope soon left us no room for doubt. There is another point in connexion with this subject which deserves consideration, and which we should feel glad if Mr. Bree, or any one else who agrees with him, would enlighten us upon. If *H. leucocephalus* is found, not as a straggler, but an inhabitant of the middle of Russia, how comes it that it is not met with in the countries lying between that and America? It does not occur in Greenland, has never been observed in Iceland, is not found, in spite of the assertions of MM. Nilsson and Boie, in Scandinavia, and we have it most certainly not in the British islands, though, through some mistake or other, M. Temminck and Baron Laugier were induced to buy two examples at Mr. Bullock's sale, said to have been killed in the Hebrides. Schlegel, as we have shown, has effectually disposed of the reported German and Swiss specimens; and no one has been venturous enough to declare that the continent of Asia (supposing the birds to reach the old world by the Pacific route) owns its presence. Let our readers take our word for it, the Bald Eagle is not a European bird; and if it ever occurs on this side the Atlantic, it will be merely as an escaped captive or a chance wanderer on a filibustering expedition; and we exceedingly regret that Mr. Bree, who has herein acted against the advice of his "discreet adviser," has thought fit to assist in prolonging a very grave mistake. A little more attention would have revealed to him that the authorities, of whom he quotes a strong list to support his view of the case, have been merely copying from each other, instead of citing fresh testimony; and one of the best of them, the late Prince C. L. Bonaparte, in his last publication on the Birds of Europe, has reversed his former opinion, and enumerated *H. leucocephalus* in the '*Liste d'oiseaux que l'on fait passer pour Européens*,' remarking of it, "*confondu avec Hal. albicilla.*"

Mr. Bree has, in our opinion, exercised a wise discretion in refusing a place in his work to the South-African *Cuncuma vocifer* of Mr. G. R. Gray; for we quite agree with him in thinking the evidence of this bird's occurrence in Greece too slight, resting, as it does, merely on the tickets of two specimens in the Museum at Mayence, and uncorroborated by any testimony on the part of Count Henry von der Muehle.

Our author makes an astonishing assertion, and one entirely contrary to fact, in stating that "the Short-tail Eagle forms the sole representative of the genus *Circaëtus* of Vieillot," since Mr. Gray (Gen. B. p. 16, and App. p. 1) makes ten, Dr. Kaup (Contr. Orn. 1850, pp. 71, 72) sixteen, and the late Mr. Strickland* (Orn. Syn. i. pp. 45–48) eight species of that group. We are not sure that this bird (*Circaëtus gallicus*, Gmel.) has not been killed in England. It certainly has occurred as far north on the Continent, according to Dr. Kjœrbœlling (Danmark's Fugle). We do not think that M. Temminck's meaning (Man. d'Orn. pt. iii. p. 25) is, as Mr. Bree interprets it, that it is becoming rare in Belgium and in Italy. It was probably never anything but a straggler in the former country, M. de Sélys-Longchamps (Faune Belge, p. 53) mentioning but two instances of its occurrence there, and most likely it was never more frequently met with in the latter country than at the present day. We have Mr. Robert Birkbeck's authority (Zool. 1854, p. 4249), it is "common in Liguria in the spring;" and that gentleman met with examples in the markets at Rome and Genoa, besides seeing "several soaring over the Campagna."

---

* Of these eight species of *Circaëti*, it is now known that *C. ferox* is *Buteo leucurus*, Naum. (*B. rufinus* of Mr. Bree's book); *C. cinereus* is the young of *C. pectoralis*; *Circaëtus solitarius* of S. America is no *Circaëtus*, but nearly allied to the genus *Harpyhaliæëtus* (of which *C. coronatus* is the type), and the only member of M. Jules Verreaux's division *Urubitornis* (P. Z. S. 1856, p. 145); and *C. cinerascens* of Müller is a Buteonine bird (confer Pr. Bonaparte in Rev. Zool. Feb. 1855). This leaves only

It is unfortunate that our author has overlooked the very interesting communications in 'Naumannia' for 1853 (pp. 256 and 296), by Dr. J. Fr. Naumann and Herr H. F. Moeschler, respecting the Long-legged Buzzard (*Buteo rufinus*, Kaup), under the synonym of *Buteo leucurus* of the former writer; for they would have enabled him to have added much to the meagre account he has given of this bird's habits in Europe, of which he states "nothing is known." In the neighbourhood of the lower part of the Volga, it seems to be far from uncommon, and to breed. The late Mr. Strickland (Orn. Syn. p. 35) identifies this species with the *Buteo pectoralis* of Vieillot. If he be right, that name has the priority of *rufinus*; but one of the German writers above cited thinks it probable that it is the bird described by Pallas (Zoogr. Rosso-Asiat. i. p. 354, sp. 27) as *Accipiter hypoleucus*, in which case this specific name, as being the oldest, ought to be used*.

---

two *described* species in the genus *Circaëtus*, namely *C. gallicus* and *C. pectoralis*. Mr. G. R. Gray has as yet only published the *name* of his *Circaëtus fasciolatus*.—Ed.

* Mr. G. R. Gray (List B. Brit. Mus. 2nd ed. i. p. 17) refers the *hypoleucus* of Pallas, with an expression of doubt, to *Circaëtus gallicus*. We have not now the means of determining whether the Anglo-Saxon or the Teutonic suggestion be right, but we hope our calling the attention of naturalists to the question may be the means of settling the point. [It is stated by Prince Bonaparte (Rev. Zool. Feb. 1855), that Pallas's *hypoleucus*

To Mr. Gurney we believe the credit is due of discovering the identity of the *Buteo cirtensis* of General Levaillant with *'le Tachard'* of his older, and, among ornithologists, better known namesake, the great African traveller. It is true that Prince C. L. Bonaparte (Cat. Ois. d'Eur. 1856) quotes the Algerian warrior's bird as identical with the many-named *B. rufinus* last noticed; but we are inclined to think Mr. Gurney has made out his case—though whether the two specimens of the African Buzzard (*B. tachardus*, Vieill.) in the Norwich Museum were really from the Volga, is another question. Skins from the country drained by that river, prepared, as they are principally, at the Moravian settlement of Sarepta, can, it is said, be at once detected by a practised eye—though whether their peculiarities cannot be successfully imitated by clever and unprincipled dealers we know not, but we fear it is possible. We before remarked of *Aquila nævioides*, that its being a common species in North Africa renders its occasional occurrence in Europe very likely. The same may be said of this Buzzard, which is not only met with in the southern portion of the continent, but also along its northern shore, from the extreme limits of Morocco to Tunis. We do not therefore so much demur to our author's giving it a place in his work; but we should be inclined to consider it on probation only. The fact however is, that, as has been observed by Mr. P. L. Sclater (Proc. Linn. Soc., Zool. ii. p. 135), "Africa, north of the Atlas along the southern shores of the Mediterranean, appears to belong to Europe zoologically, and not to the continent with which it is physically joined." We would indeed take exception to the word "zoologically," for we believe the Algerian mammals and reptiles * are entirely distinct from those of the opposite coast; but the cis-Atlantean part of North Africa should unquestionably be regarded as forming part of Europe ornithologically, and we trust the day may not be distant when some philosophic

---

belongs to *Buteo rufinus*; but a still older appellation is S. Gmelin's *Accipiter ferox*, which we have called attention to above.—Ed.]

* Dr. Günther, in his recent papers on the geographical distribution of Reptiles and Batrachians, takes a different view from this, and confirms the zoological division indicated in the Proceedings of the Linnean Society, above quoted. See Proc. Zool. Soc. 1858, p. 377 *et seq.*—Ed.

naturalist will so treat it *in extenso.* But to return :—Mr. Bree has made a singular, and, we fear we must say, a careless error in asserting that this bird "is included by Schlegel in his 'Fauna Japonica'"—thereby implying that, on this eminent naturalist's authority, the species occurs in Japan; for the authors of that work say nothing of the kind. They do indeed incidentally mention (Faun. Jap., Aves, p. 16) "la Buse commune du Cap, *Falco tachardus* de Shaw ou le Tachard de Levaillant, dont le Rougri de Levaillant est l'adulte ;" but it is only to say of it that, though it resembles the Japanese Buzzard in the conformation of its feet, yet it is "d'une taille moins forte, et son plumage tire fortement au roux à l'âge adulte."

Of the Black Kite (*Milvus migrans,* Bodd.) we have only to remark that our author is in great error when he says that "it is common in Japan, where it is known by the name of Tobi," &c. Now the Japanese species (called by Messrs. Temminck and Schlegel *M. melanotis*) is the same as the common Indian Govinda Kite (*M. govinda,* Sykes), and is, notwithstanding Mr. Strickland's opinion (Orn. Syn. i. p. 134), by which we suspect Mr. Bree to have been misled, altogether distinct from our Black Kite—as any one may see, who will take the trouble to compare the two. Therefore, though perfectly willing to admit the Japanese themselves to all the privileges of European civilization, we must protest against their "Tobies" being treated otherwise than as aliens. Besides, as to the Black Kite being "very common in Abyssinia," and again, as our author has it, under the head of the Arabian Kite (*M. forskahli,* Gmel.), "equally common at the Cape of Good Hope" with that species, these are both statements far from correct. The former, the Black Kite, only occurs in Abyssinia as an occasional winter visitant, and is never met with at the Cape, where its place is supplied by the more truly African form.

As to the Black-winged Kite (*Elanus melanopterus,* Leach), the last of the birds we have to remark upon, Mr. Bree makes some inaccurate assertions. First, "It forms with its congener, the North American 'Swallow-tailed Kite,' which is in the British list, the only representative of the genus *Elanus* of Savigny ;" and, again, "It is found generally distributed over the Indian continent, and in Africa from south to north. It is common in Egypt, and it occurs in Java, New Holland, and also in the southern part of North America." Now, by all modern authors of repute, the North American Swallow-tailed Kite (*Elanoides furcatus*, Vieill.) is justly removed from the genus *Elanus*; and then, of this genus as thus restricted, there are certainly three other, well marked-species, besides the European, of which we are at present speaking. These are, the American White-tailed Kite (*E. leucurus*, Vieill.), of which plates may be found in Mr. Audubon's work (B. Am. pls. 351, 352), and the Australian Axillary and Letter-winged Kites (*E. axillaris*, Lath. and *E. scriptus*), both well figured by Mr. Gould (B. Austr. i. pls. 23, 24), which not only in their geographical range, but in their characters to be perceived even at first sight, are undeniably distinct from *E. melanopterus*.

We are glad that our author has not included *Falco peregrinoïdes* of Sir A. Smith in his work—it is a truly South African species, and we are not aware of its occurrence within European limits. So also of *Tinnunculus rupicolus* (Daud.), though the Norwich Museum contains a specimen said to be from Greece,—not a very likely locality for this bird.

We regret that Mr. Bree has not thought fit to adhere to the rules of nomenclature now almost universally adopted, especially when introducing so many species, it may be for the first time, to the majority of his readers. In the present article we have called the subjects of our author's work by those names which in the opinion of almost all naturalists should be applied to them. We trust that for the future he will take care of this. Let him be assured that by not doing so, he is throwing a most serious obstacle in the way of beginners; and, if we might be permitted to tender our advice to such persons, we would strongly recommend them at once to get in the way of using those names which inevitably will be adopted at last.

It remains for us to remark upon the plates in Mr. Bree's work. As examples of printing in colours, which we believe they are, they are very successful, and much superior to those in the kindred book of Mr. Morris; but they are not always, when regarded solely from an ornithological point of view, very accurate. The representations of the Gyrfalcon, Saker, and Lanner are reduced copies of Mr. Wolf's illustrations in the 'Traité de Fauconnerie' of Messrs. Schlegel and Verster de Wulverhorst, and, notwithstanding the translation which they have undergone, still retain much of their original spirit. Next to these come the drawings by Mr. Reeve, which have much merit. We before noticed the incorrectness of the figure of the Imperial Eagle; but the worst figure of all is that of the Eleonora Falcon, which is so unhappy-looking, as to remind one of the attempts at drawing birds made a hundred years ago. We regret that we cannot praise the plates which represent eggs. We think the fault must lie in the process of engraving, which does not seem at all applicable to the representation of such delicate objects. Not one of the figures possesses any distinctive characters. But far more serious than this evil, is, we fear, the principle on which Mr. Bree has proceeded, with regard to the specimens or drawings from which the plates are taken.

The offer of assistance from M. Moquin-Tandon has been, in our opinion, productive of anything but real benefit to the work. Our author says that the figure of the egg of the Booted Eagle is from a drawing furnished by the distinguished French naturalist just named, who observes, "This egg was sent to me from the Spanish Pyrenees by a seller of skins. I thought for some time that it belonged to the Common Buzzard, or else the Rough-legged Buzzard; but on comparing it with two drawings, quite recently published by M. Bädeker (pl. 1. fig. 3), I discovered that I had not been deceived." Now here is just one of those cases, which bring the study of Oology, and very justly, into more discredit than any other thing. M. Moquin-Tandon's egg is very likely that of a Booted Eagle; but where is the proof of the fact? Absolutely, as we read it, there is none. This gentleman buys an egg of a dealer, who we suppose sells it to him under the above name. It is, if it is fairly represented, a nice-looking egg, just about the right size, and slightly mottled with pale reddish brown. But "How like a Common Buzzard's!—how like a Rough-legged Buzzard's!—how like fifty other eggs!—what a pity!—there must be a mistake—I have been cheated," he says. "But wait: here is the first number of Prof. Bädeker's work; let us look,—*Aquila pennata,* yes, here it is; after all, it is right: my fears, and not the dealer deceived me." This is the state of the case; and can anything be more illogical? M. Moquin-Tandon is, we are afraid, by no means singular. There are many collectors in this country, who yearly spend large sums in buying eggs from dealers—utterly un-identified, or with (since identification of eggs has lately become somewhat fashionable) a plausible history, but one that will not bear investigation. Little do they know how the four quarters of the globe have been ransacked, how varieties have been selected from a large series of specimens belonging to allied, or, it may be, utterly remote forms, because they resemble the figures that have been published of the egg for which there is a demand in the market. They are of no authority whatever; their faces are their fortune, and like, we fear, some other pretty faces, are without character, and may lead those that seek them into endless trouble. It is this example of M. Moquin-Tandon's mode of identifying eggs which compelled us, while treating of the Bald Eagle, to pass over the evidence in favour of its European claims adduced by Mr. Bree from supposed eggs of that bird, said to have been brought from the North of Europe by Prince Napoleon's expedition. It would be a waste of time to inquire whether they were rightly named, or from what country they were obtained—whether from Iceland, where no one has even said that the Bald Eagle occurs; from Norway, where no one now believes that it ever existed; or from Spitzbergen, innocent of *all* eagles, whether French or American. We regret to see our author avail himself of such an argument.

And now one word more and we have done. To find fault is never an agreeable task, and never so disagreeable as when the person censured is, in the main, of the same way of thinking as oneself. Still less is the office of a reviewer an enviable one,—a single sentence, nay, a word, may breed a hostile spirit that nothing can appease. And least of all should we desire to provoke such an enmity among ornithologists, when writing in the first number of a new Journal, which can only be continued by the favour they may accord it. It is simply because we believe that Mr. Bree's work will have a deservedly wide sale among many who have had hitherto little or no knowledge of European ornithology, that we have been so careful to correct the errors that have crept into it, in spite of the time and labour, of which the author has not been sparing in devoting to his task. We therefore entreat Mr. Bree to take in good part all we have said; we can honestly declare that we are prompted by no ill-feeling against him. If our censure has been plain-spoken, so also has been our praise; and praise of a very high degree he merits. There is one point of view especially from which Mr. Bree's work deserves every encouragement.

Many, we hope all, *real* naturalists (and here we use the word in a restricted sense) have seen with great pain the late insensate rage for acquiring specimens of natural history, especially of so-called "British" birds. These are in most cases amassed from the mere *amor habendi*. No use whatever is made of them; our knowledge of the purposes they were designed, when in life, to fulfil, is in no way advanced by nine out of ten of the collections of British birds, which now are so commonly formed. On the contrary, it is greatly retarded, as the destruction of every curious and uncommon bird of course diminishes the opportunities of observation, and collections on this plan, or rather this want of plan, tend to encourage the knavish more than the honest dealer. Now it must inevitably slacken the demand for these "Rare British Birds," if collectors will extend their solicitude to foreigners. We shall cease to hear of enormous prices taken or refused for a Rock Thrush or a Cream-coloured Courser which may happen to have been killed in this country, and which really ought to have no greater intrinsic value on that account. The advantages of strictly local collections are not to be denied, but they are chiefly discernible with respect to common indigenous species. A good series of specimens showing the constant distinctions to be found between individuals from different localities of any of our most plentiful species, say the Yellow Bunting or the Red Grouse, would be in every way much more interesting than a collection containing many high-priced stragglers from foreign lands. It is in this manner we believe that science can be most benefited. Herein we claim Mr. Bree on our side. Some years ago he recorded, in the pages of the 'Zoologist' (1849, p. 2524), opinions nearly identical with our own on the unnecessary destruction of rare birds. "I do not understand," he wrote, "Natural Science to consist of a mania for collecting; I look upon it rather as a study of God's works in the world, which he has created and peopled:" and as one means of checking this mania do we heartily wish Mr. Bree well, and recommend the purchase of his book to all our readers.

December 1858.

X.—*Recent Ornithological Publications.*

Those who wish to keep themselves *au fait* with the present rapid advance of every part of Zoology will do well to consult the Report upon the progress of its different branches published every year in the second volume of 'Wiegmann's Archiv für Naturgeschichte,' now edited by Professor Troschel. In the "Bericht über die Leistungen in der Naturgeschichte der Vögel" (Report on the Birds), from the pen of Dr. Hartlaub, will always be found a complete *résumé* of what has been done in Ornithology during the previous year. The only fault we have to find with it is its somewhat tardy appearance (the Bericht for 1857 not having yet reached us); but this, we believe, is owing to no fault of the author. We are not prepared at present to offer to our readers any such detailed and complete account of what has been published, but shall endeavour from time to time to notice some of the principal publications, relating to the branch of Zoology to which this Journal is devoted, which come under our notice.

1. English Publications.

In speaking of books concerning Birds published in this country, Mr. Gould's magnificent series of illustrated works claims our first attention. In the year 1858 Mr. Gould has issued Parts 15 and 16 of the 'Monograph of the *Trochilidæ*,' Part 10 of 'The Birds of Asia,' and the first part of a new edition of the Monograph of the Trogons. The Humming-birds figured are the following:—

Part 15. (May 1st, 1858.)

1. Eriocnemis derbianus.
2. ,, nigrivestis.
3. ,, isaacsoni.
4. Trochilus colubris.
5. Phaëthornis obscurus.
6. ,, viridicaudata.
7. Lampornis gramineus.
8. ,, porphyrurus.
9. Lampornis veraguensis.
10. ,, aurulentus.
11. ,, prevosti.
12. Cometes? glyceria.
13. Heliopœdica melanotis.
14. Erythronota edwardi.
15. ,, niveiventris.

Part 16. (Sept. 1st, 1858.)

1. Phæolæma rubinoides.
2. Helidoxa jacula.
3. Discura longicauda.
4. Phaëthornis superciliosus.
5. ,, cephalus.
6. Sternoclyta cyaneipectus.
7. Thalurania furcata.
8. ,, columbica.
9. Thalurania venusta.
10. ,, eriphile.
11. ,, verticeps.
12. Microchera albicoronata.
13. Chrysobronchus virescens.
14. ,, viridicaudus.
15. Chrysuronia eliciæ.

We look forward with great anxiety to the completion of this great work (which we believe we may shortly expect); and we hope that Mr. Gould in his introduction will not only give us a simple, understandable arrangement of this difficult group, but also some structural characters for the recognition of the multitude of genera into which it is now divided, and which appear to be still increasing, three new generic terms having been published in these last two parts.

The Tenth Part of 'The Birds of Asia' contains figures of

1. Phasianus mongolicus.
2. Ceriornis caboti.
3. Pyrrhula aurantia.
4. Parus cinereus.
5. ,, minor.
6. ,, monticolus.
7. Palæornis columboides.
8. ,, schisticeps.
9. Palæornis derbianus.
10. ,, malaccensis.
11. ,, affinis.
12. Tesia cyaneiventris.
13. ,, castaneo-coronata.
14. Accentor atrigularis.
15. ,, altaicus.
16. Merula unicolor.

Of these, *Ceriornis caboti, Pyrrhula aurantia,* and *Palæornis affinis* are all new and most interesting additions to the respective groups to which they belong. *Accentor huttoni* and *A. variegatus* of the Himalayas have been judiciously united to the Siberian *A. atrigularis* and *A. altaicus* respectively, and, as it seems to us, upon satisfactory evidence. The latter bird is nearly allied to the Alpine Accentor. With regard to *Merula unicolor,* we do not quite agree with Mr. Gould in considering it so rare and so restricted to the western parts of Upper India as he appears to think. Specimens *are* in the British Museum, collected by Mr. Hodgson in Nepal, and it has been named by that gentleman *Petrocincla homochroa,* and indifferently figured in his unpublished series of plates. We believe it is also the *Turdus unicolor* of Capt. Tickell (Journ. As. Soc. Beng. ii. 577) and *Turdus modestus* of Blyth (*ibid.* xvi. 144). Capt. Boys' specimens, one of which Mr. Gould refers to, were collected in the province of Kumaon, and the bird bears the number 495 in his series. There are likewise examples in Sir William Jardine's collection, and in that of the late Mr. Strickland.

We gladly welcome the appearance of the first part of Mr. Eyton's 'Osteologia Avium'*, a work on a very important and hitherto much neglected branch of ornithological science, without the aid of which it is hopeless to expect to arrive at anatural arrangement of the class. The plates are drawn on zinc by Erxleben, under Mr. Eyton's personal superintendence.

Mr. Bree's work on European birds which have not been observed in the British Isles, forming a sequel to Mr. Morris's History of British Birds, has reached its 7th Number. We have received from a correspondent, well acquainted with European ornithology, an extended notice of this book, given above, to which we beg to refer our readers for further information.

The first three parts of the 'Illustrated Proceedings of the Zoological Society,' containing the papers read up to July 13th, and accompanying plates, have appeared. The articles relating to Ornithology are very numerous, and it is hardly necessary to extract even their titles, as the work must be in the hands of every one who pays attention to Natural History. The writers on Birds are Messrs. Gould, George Gray, Meves, and Sclater, and Drs. J. E. Gray, Hartlaub, and Krefft. Mr. Gould describes (p. 355) two new species of *Hirundinidæ* (*Atticora pileata* from Guatemala, and *Chelidon cashmeriensis* from Cashmir), and a new Ptarmigan (*Lagopus hemileucurus*) from Spitzbergen (p. 354). Mr. George Gray gives a list of the birds obtained by Mr. Wallace in the Arú and Ké Islands, with descriptions of new species (p.169). A *Tanysiptera*, a *Ptilorhynchus*, five Parrots *, and as many splendid Pigeons, are amongst Mr. Wallace's most brilliant discoveries, as here recorded. A useful table appended gives the distribution of the species in New Guinea, the Arú and Ké Islands, the Louisiade Archipelago, Waigiou, Timor-laut, Northern Australia, and Torres Straits. M. Meves' communication (p. 199) is on the humming-noise of some of the Snipes, which it now said to be produced by the peculiarly-shaped outer tail-feathers. Mr. Sclater's papers are on the birds collected by Mr. Bridges in California (p. 1); on a collection of birds from the Rio Napo (p. 57); on some birds from Southern Mexico (p. 95); on new or little-known Accipitres from the Norwich Museum (p. 128); a Synopsis of the *Formicariidæ* (pp. 202, 232 and 272); on the Magellanic Goose (p. 289); on new Tanagers (p. 293); on a collection of birds from Oaxaca (p. 294); on a new *Buteo* (p. 356); and on birds collected by Capt. Taylor in Honduras (p. 356). Among the birds from the Rio Napo, are two very beautiful new forms of Tanagridæ, *Euchætes coccineus* and *Creurgops verticalis* (pl. 132). Dr. Hartlaub describes "new species of birds from Western Africa in the Collection of the British Museum" (p. 291). Dr. J. E. Gray makes remarks on the eggs of the new Cassowary (*C. bennettii*), of which two somewhat dissimilar examples are in the British Museum (p. 271). Dr. Krefft gives an interesting notice on the habits and nesting of *Pomatorhinus ruficeps*, Hartlaub, of Australia.

---

* See the Advertisements on the cover.

The 'Annals of Natural History' for the year 1858, besides giving most of the important papers read before the Zoological Society, contain (No. 10)—"Description of a new Grass-finch from New Caledonia," by John Macgillivray; (No. 12) a paper "On a peculiar process attached to the Ischium in Erucivores," by T. C. Eyton; and the "Description of a new species of bird from Palestine," by P. L. Sclater. Out of the many species of birds in New Caledonia, Mr. Macgillivray has unfortunately selected one of the few, which are already known to the scientific world, to describe as new. As Dr. Hartlaub has shown in a recent communication to the Zoological Society, *Poëphila paddoni* was discovered in New Caledonia as long ago as the year 1774 by the Forsters, who accompanied Capt. Cook in his second voyage. It is described and figured by Latham in his 'Synopsis' (vol. iii. p. 287. pl. 48) as the "Parrot Finch," which name was latinized by Gmelin into *Fringilla psittacea.* It belongs strictly to the genus *Erythrura.* We are not aware that the curious process attached to the anterior extremity of the ischium, mentioned by Mr. Eyton as occurring in the *Cuculidæ* and their affines, has been previously noticed as being peculiar to this group, although some allusion to it appears to be made in Dr. Opel's elaborate paper on *Cuculus canorus* published in Cabanis's Journal for 1858. Mr. Tristram's discovery of a species of the purely African genus *Amydrus* in Palestine is certainly remarkable.

---

* We must, however, express a doubt of the distinctness of *Chalcopsitta rubrifrons* from *C. scintillata* (Temm.).

'The Zoologist' for 1858 contains, as usual, a number of notes on the habits of birds and the occurrence of rare species, which must always be of great interest to the naturalist.

The second volume of the 'Catalogue of the Birds in the Museum of the Hon. East India Company, by Thomas Horsfield and Frederic Moore*,' recently issued, is the continuation of a very important work, which we hope soon to see complete. There is as yet no such thing as a scientifically-prepared catalogue of the birds of any of the larger museums† of Europe; and it will be no small honour to produce the first of such a series. Moreover, the numerous notes concerning the habits of species added to the synonyms in this work render it almost a book of light reading for the general naturalist, as well as a valuable work of reference to those who are engaged in studying the ornithology of the East. We may call particular attention to the notices given of the very strange habits of various species of Hornbills (*Buceros*) during the period of incubation (p. 587 *et seq.*). Similar facts were noted by Dr. Livingstone‡ in his recent journey in Africa concerning *Toccus erythrorhynchus.* If we have any fault to find with the book, it is that the generic divisions adopted are sometimes too numerous, and the arrangement employed a little out of date. But this does not interfere with the great general merit of the work, which is, we believe, mainly due to the labour bestowed upon it by Mr. F. Moore.

---

* London, Allen and Co., Leadenhall Street.

† We should except perhaps that of Bremen, of which a carefully prepared catalogue has been printed by Dr. Hartlaub.

‡ Livingstone's Missionary Travels in South Africa, p. 613.

De Verteuil's 'Trinidad*' contains a good deal of information upon the zoology of the island, put together in rather a desultory way. The scientific names when given are often misspelt. We learn (p. 118) that the King Vulture inhabits the high woods, as also the Red-headed *Cathartes*. The Black-headed *Cathartes*, as in the U. S., is gregarious, and found principally in the towns and plantations, where it is the common scavenger. 'An Essay on the Ornithology of Trinidad,' by Antoine Leotand, is appended, and here also will be found much generally interesting matter. Nearly 300 species are stated to have fallen under observation. A list is given of their genera and subgenera "after Cuvier." The Guacharo (*Steatornis*) is in Trinidad also called "*Diablotin*." Dr. Leotand remarks:—"The young ones, which are literally a mass of fat, are highly praised and relished by amateurs. I have on several occasions partaken of them, but must candidly confess, in consequence of a certain cockroachy flavour, which is the reverse of tempting, I have for a long time discarded that dish."

The 'Naturalist in Bermuda†' is the title of a little work on the "geology, zoology and botany of that remarkable group of islands," just issued from the press. Mr. Jones is fortunate in having secured two such excellent observers as Major Wedderburn and Mr. Hurdis to assist him in his labours on the birds. Except the notices in Sir William Jardine's 'Contributions,' the present is the only attempt at an account of this peculiar fauna, which is divided in its allegiance between the Old and New Worlds, and seems to incline first towards one and then towards the other, "according to the way the wind blows." On the whole, however, the American types are decidedly predominant, *Cardinalis virginianus* and *Sialia wilsoni* being common and resident*. We recommend this book to the notice of the residents in our numerous islands and dependencies, as showing how much there is to be done even in so limited a field of observation.

---

* 'Trinidad: its Geography, Natural Resources, Administration, Present Condition and Prospects.' By L. A. A. De Verteuil, M.D.P. London, 1858, 1 vol. 8vo.

† Reeves and Turner, Strand, London, 1859.

II. FRENCH PUBLICATIONS.

The death of the late lamented Prince Bonaparte, which occurred last year, has created a vacancy in the list of the active ornithologists of France, which it will be hard to fill. But of the several works commenced or projected by the Prince at the time of his death, two at least are being continued. The 'Iconographie des Perroquets,' a supplement to the great publications of Le Vaillant and Saint-Hilaire, is issued as far as its 12th livraison. We do not much like the plates of this book, which are very *French* in style and execution; they are, however, a great advance upon those of the work of Saint-Hilaire. But the L. P. (from the pen of M. de Souancé, we believe) is very commendable, containing the complete synonymy with accurate descriptions and precise localities of each species figured. We think, however, that in a scientific work, though this perhaps is less necessary where the languag eemployed is French, the technical characters of the species should be given in Latin.

The corresponding work, entitled 'Iconographie des Pigeons,' has also reached its 12th livraison.

Of the 'Revue et Magasin de Zoologie' for the year 1858, we have received seven numbers, which contain several interesting articles on Ornithology, from the pens of MM. Malherbe, Moquin-Tandon, Pucheran, and Jules Verreaux. M. Malherbe describes a new Woodpecker from Ecuador (*Celeopicus verreauxii*). M. Moquin-Tandon continues his useful "Notes Ornithologiques" upon the birds of the South of France. Dr. Pucheran writes observations on *Pica beecheyii*, *Cyanopica cyanea*, and *Juida nitens*. M. Verreaux publishes characters of three new birds, *Dryoscopus turatii* (ex Afr. Occid.), *Monarcha castaneiventris* (ex ins. Samoens.), and *Cyanalcyon leucopygius* (ex ins. Salomon.).

---

* The Tropic-bird of the Bermudas is *Phaëthon flavirostris*, and not *P. æthereus*. See Jardine's Contrib. 1852, pl. 84, where the egg is figured.

Loche's Catalogue* of Mammals and Birds observed in Algeria contains a list of the specimens exhibited at the "Exposition permanente des produits de l'Algérie" at Algiers, with the addition of other species observed by the author in that country. The classification adopted is that of Prince Bonaparte's 'Catalogue des Oiseaux d'Europe,' some few synonyms are given, and the 'habitat' added to each species. The book is a very useful one in its way, particularly as a handbook for tourists, or for those who are working at the ornithology of this country, as by far the most complete list of the birds of Algeria yet issued. But we object to the practice of publishing new specific names in any form without giving descriptions. Who is to know what is intended by "*Malurus sahara*, Loche in litt.," "*Calendrella reboudia*, Loche in litt.," "*Galerida randonii*, Loche in litt."? Can the public peruse M. Loche's private correspondence and ascertain what birds he may have so designated? It stands to reason that the publication of such names without descriptions gives not the slightest title to priority, and is only productive of a confusion of synonymy, which retards the progress of science. M. Loche's Catalogue enumerates as species observed by himself—

Accipitres . . .	46	Cursores	1
Insessores . . .	157	Grallæ	70
Columbæ . . .	5	Anseres	73
Gallinæ	6		
		Total	358

An Appendix contains the names of 42 others considered doubtful. With regard to the main list, however, we suspect it will be difficult to establish the specific validity of such species as *Amnomanes elegans*, *Microcarbo algeriensis*, and some others.

3. German Publications.

Of Cabanis' 'Journal für Ornithologie' we have received only the first four parts for the last year. We notice some of the more remarkable articles. The veteran naturalist Max, Prinz zu Wied, contributes a series of interesting papers on the birds observed by him during his North American journey twenty-five years ago. Had this been published soon after his return, it is probable that the species to which he gives names as undescribed might have been really new. It is, however, hardly likely that they can have escaped the penetrating researches of the Americans up to the present time. Brehm's 'Singing-birds of Spain' well merits perusal. Under the head of *Dromolæa leucura,* which he observed in that country, he takes the opportunity of describing two new species from Egypt, *Dromolæa leucocephala* and *D. leucopygia* (Journ. f. Orn. 1858, pp. 62 and 66). We believe them to be well-founded, having lately examined examples of both, obtained by Mr. Tristram in the Algerian Sahara. In Heft ii. Dr. Bolle's paper on the Wild Canary, and Prof. Burmeister's Ornithological letter from Mendoza are both of a very interesting nature. The *Turdus anthracinus,* mentioned by the latter author as one of the true Thrushes occurring in the vicinity of Mendoza, is doubtless D'Orbigny's *Turdus fuscater,* of which Mr. Bridges obtained specimens in the same locality. Heft iii. contains the commencement of a very elaborate article on the Anatomy and General History of the Cuckoo by Dr. Opel. A note from Herr von Homeyer seems to confirm Dr. Gloger's views as to the distinctness of *Carbo desmaresti* of the Eastern Mediterranean. In Heft 4 is the second part of Dr. Opel's essay on *Cuculus,* at the end of which (p. 306) will be found the results at which the author has arrived as to the causes of its singular method of propagation. Professor Alex. von Nordmann communicates observations on the Nesting of the Waxen Chatterer (*Ampelis garrula*). We beg to remind him that our countryman Mr. John Wolley is entitled to the whole merit of this discovery. The nest and eggs were first taken by Mr. Wolley in June 1856, and were exhibited at a meeting of the Zoological Society held on the 24th of March, 1857. If the Professor will refer to the Illustrated volume of Proceedings for that year, he will find not only a full description, but a figure of both nest and eggs.

---

* Catalogue des Mammifères et des Oiseaux observés en Algérie par le Capitaine Loche. Paris, 1858, 1 vol. 8vo.

Of 'Naumannia' for 1858 we have only received the first part. It contains amongst other things an account of the birds of the Cyclades by Dr. Erhard. Fifty-two species are given as permanent residents, 77 as winter visitants, 62 as birds of passage in autumn or spring, and 29 as summer visitants. A curious, if reliable, addition to the European fauna is a new Falcon from the islands Tragonisi and Slapodia, *Falco dichrous*, Erhard.

Herr August von Pelzeln continues his interesting communications to the Academy of Sciences of Vienna, on the new or little-known species of birds of the Imperial Cabinet. The 'Sitzungsberichte' for July 1858 contain his last paper, in which he describes *Merops boleslavskii* from the Sudan, *Furnarius* (*Opetiorhynchus*) *minor* from Brazil, *Anumbius ferrugineigula* from Patagonia, *Copsychus pica* from Madagascar, *Mimus leucospilus* from Chili, *Muscivora swainsoni* from Brazil, *Penelope cujubi* from Para, giving remarks upon the allied species, and a notice of the occurrence of *Gypohierax angolensis* from the *eastern* coast of Africa. [What does Dr. Hartlaub say to this ?] The *Mimus leucospilus* is, we believe, a good species, and is in the British Museum from S. Elena Bay, Ecuador, not from Chili ; but it is very likely to be *Mimus peruvianus* of Peale (United States Exploring Expedition).

Kittlitz's 'Denkwurdigkeiten einer Reise nach den Russischen Amerika nach Mikronesien und durch Kamtschatka*' contains many interesting notices on Natural History, particularly Ornithology, made during the author's journey round the world thirty years ago. We recommend the book as worthy of the attention of our readers.

4. AMERICAN PUBLICATIONS.

The most important work on Ornithology that has appeared during the past year is certainly the general work on North American Birds, which forms the second part of the ninth volume of the 'Reports of Explorations and Surveys to ascertain the most practicable and economical route for a Railroad from the Mississippi River to the Pacific Ocean†.' It is from the pen of Professor Baird, with the co-operation of Messrs. Cassin and Lawrence, and is in every respect such a work as these gentlemen, already well known for their labours on the ornithology of their native country, might be expected to produce. The 'Report,' in the words of the preface, is "a continuation of a systematic account of the vertebrate animals" observed by the different surveying parties, each of which was accompanied by competent collectors, and, "as in the volume on Mammals, by the insertion of the comparatively few species not noticed by the expeditions, becomes an exposition of the present state of our knowledge of the birds of America north of Mexico." The total number of species included as occurring within these limits is 721, being an increase of no less than 210 over the last list published by Audubon in 1844, which shows the energy which the Americans have lately devoted to the working out of their country's fauna. Of each of these species the synonymy is given in a very complete way; the specific characters are clear, and yet concise; and, besides an indication of the general geographical range, the precise locality of each individual specimen in the Museum of the Smithsonian Institution, where the zoological collections made by the different surveying parties were deposited, and in most cases also its measurements, are recorded: so that, on the whole, the work must be pronounced to be very complete, and quite indispensable to any one who pays attention to the ornithology of the New World.

---

* 2 vols. 8vo. Gotha, 1858, Perthes.

† These Reports are American "Blue-books." They may be obtained in London of Messrs. Trübner and Co.

The following Table gives the number of species included of the different orders, and may be taken as a fair general estimate of the Nearctic Avi-fauna:—

	Species identified.	Species not identified.	Total.
Order I. Raptores	61	—	61
II. Scansores	35	—	35
III. Insessores.			
a. Strisores	17	—	17
b. Clamatores	30	1	31
c. Oscines	276	9	285
IV. Rasores.			
a. Columbæ	11	—	11
b. Gallinæ	21	1	22
V. Grallatores.			
a. Herodiones	24	—	24
b. Grallæ	58	1	59
VI. Natatores.			
a. Anseres	48	4	52
b. Gaviæ	108	16	124
Total	689	32	721

The 'Proceedings of the Academy of Natural Sciences of Philadelphia' for 1858 have been received in this country up to p. 184, giving the papers read up to October 26. The ornithological communications are—(1) "Descriptions of new Birds from the vicinity of Fort Tejon, Cal.," by J. X. de Vesey (*Tyrannula hammondii* and *Vireo cassinii*); (2) "Description of a new *Toxostoma* (*T. crissalis*) and a new *Junco* (*J. dorsalis*)," by Dr. T. C. Henry, from New Mexico; and (3) "Description of a new Tanager from the Isthmus of Darien, and Note on *Selenidera spectabilis*," by John Cassin. The Tanager is a *Calliste*, belonging to the section containing *C. gyrola* and its allies. Mr. Cassin calls it *C. lavinia*. It is the second * species discovered since the completion of the lately published Monograph. The beautiful new Toucan, named by Mr. Cassin *Selenidera spectabilis* (Proc. Acad. Philad. 1857, p. 214), was again obtained by the American Surveying party on the Isthmus of Darien, near the village of Susio, province of Choco. A plate, giving good figures of two interesting African species, *Pholidornis rushiæ* and *Ægithalus flavifrons*, is attached to the same part of the 'Proceedings.'

The 'Annals of the Lyceum of Natural History of New York' for 1858 contain (1) "Notes on some Cuban Birds, with descriptions of three new species," by John Gundlach. The species mentioned are, *Cypselus collaris*, Max, *C. niger* (Gm.), *Tachornis iradii*, Lembeye, *Myiadestes elizabethæ*, Lemb., *Colaptes chrysocaulosus*, sp. nov., *Culicivora lembeyii*, sp. nov., and *Teretristris fornsi*, sp. nov. They are accompanied by interesting observations on their habits. Mr. Lawrence adds some explanatory remarks. The discovery of the distinctness of *Colaptes chrysocaulosus* from the common Golden shafted of the United States (*Colaptes auratus*) is noteworthy; it being the fourth species of the family now known as peculiar to the island. (2) "Descriptions of two new species of Gulls in the Museum of the Smithsonian Institution at Washington (*Larus suckleyii* and *Rissa septentrionalis*) both from Puget Sound," by Mr. Lawrence. (3) "Descriptions of seven new species of Humming-birds," by George N. Lawrence. We understand from Mr. Gould, to whom Mr. Lawrence has sent the types of his species for examination, that the whole of them (with the possible exception of *Iolæma frontalis*) are known in Europe, and have nearly all been previously described.

---

* *Calliste cyanotis*, Sclater (Proc. Zool. Soc. 1858, p. 294), is the other.

The new edition of the 'Mammals and Birds of the United States Exploring Expedition under Commodore Wilkes,' by Mr. Cassin, has just been received in this country. We hope hereafter to be able to give a full notice of this important work.

XI.—*Extracts from Correspondence, Notices, &c.*

(Plate III.)

We are happy to be able to state that letters have been received from Mr. Wallace, dated Ternate, September 2nd, announcing his safe return from New Guinea about a fortnight before that time. Mr. Wallace gives by no means a favourable account of Havre-Dorey as a collecting-place, and says that he has never made a voyage "so disagreeable, expensive, and unsatisfactory as that now completed." He suffered greatly from illness and from bad and insufficient food, and was only just sufficiently recovered to work at cleansing and packing his collections. His servants suffered as much as himself, two or three of them were always sick, and one of his hunters died of dysentery. Not only was he unable to procure any of the rarer Paradise-birds himself at this spot, but he could not even purchase a single skin of them. "It is certain," says Mr Wallace, "that all but the two common yellow species" (*Paradisea apoda* and *P. papuana*) "are very rare, even in the places where the natives get them, for you may see hundreds of the common species to perhaps one of the rarer sorts. I sent two of my servants with seven natives a voyage of 100 miles to the most celebrated place for birds—Amberbabei—mentioned by Lesson, and after twenty days they brought me back nothing but two of *P. papuana* and one of *P. regia*." He goes on to say, "My only hope now lies in Waigiou, where I shall probably go next year, and try for *P. rubra* and *P. superba*. Even of *P. papuana* I have not many, as my boys had to shoot them all themselves. I got *nothing* from the natives at Dorey. You will ask why I did not try somewhere else, when I found Dorey so bad. The simple answer is, that in the whole mainland of New Guinea there is no other place where my life would be safe a week. It is a horribly wild country. You have no idea of the difficulties in the way of a single person doing anything in it. There are a few good birds at Dorey, but full half of the species are the same as at the Aru Islands, and there is much less variety. My best things are some new and rare Lories*." In a letter written from Ternate in March last, before starting for Havre-Dorey, Mr. Wallace remarks, speaking of the Eastern tropics generally, "This part of the world is very poor in species compared with South America. In Java, so rich, so varied, and so well explored, there are barely 300 species according to Müller, a number which any one spot in tropical America would probably furnish if well explored." In the same letter, with reference to the distribution of the Parrots, he says, "The *Psittacidæ* are very interesting. It is, however, almost impossible to get *all* the species of each locality, some being always scarce and difficult to shoot. The greatest confusion exists as to their distribution, owing to their being carried from island to island by the native traders. This I hope in a great measure to set to rights. Almost every island of any extent has some peculiar species, but there are others which extend over a considerable range of the Archipelago. The representative species in the different islands are often very closely allied. In Gilolo I have found the true *Geoffroiius cyaneicollis*, which is quite distinct from *G. personatus* of Amboyna, and also from the Aru species, which, if different, as I think, from the Amboyna one, is new†. In my second Macassar collection I have sent a *Trichoglossus*‡, which I think new—the most western of the genus. At Manado, in the north of Celebes, I shall find many of the rare birds which do not occur at Macassar. I have a pair of the superb *Pitta maxima* of Forsten, from Gilolo." Mr. Wallace's second Macassar collection has been received since he wrote thus. In it and his first collection he has transmitted many interesting species, *Buceros cassidix, B. exaratus, Basileornis corythaix, Streptocitta albicollis, Phœnicophaus callirhynchus, Spilornis rufipectus**—all types peculiar to Celebes; and among the *Psittacidæ, Tanygnathus mülleri*, Bp., a fine species of *Prioniturus*, and *Trichoglossus ornatus*. In the last collection we were surprised to recognize in a strongly-built Corvine bird, Prince Bonaparte's *Gazzola typica* (Compt. Rend. vol. xxxvii. p. 828, et Notes Orn. p. 6). Prince Bonaparte gives New Caledonia as the locality of this bird, which is very singular, as the *Streptocitta* of Celebes is also attributed, in Labillardière's 'Voyage,' to New Caledonia. But the fact is, that Labillardière visited Celebes as well as New Caledonia, and the specimens from each country must have been mixed up together. The true position of the *Gazzola* is certainly near *Corvus dauricus*, however Prince Bonaparte may deride its being labeled "*Corvus dauricus* de la Nouvelle Calédonie," and we are not at all sure that it is generically separable therefrom. Another interesting bird in Mr. Wallace's last Macassar collection is a curiously-marked Thrush of the section *Geocichla*, allied to *G. interpres*† of Java and Sumatra, but having the whole back as well as the head chestnut-red. For this bird, of which two examples only were sent, we propose the name *Geocichla erythronota*‡. From Lombok Mr. Wallace has transmitted the true *Geocichla interpres*.

---

* Among these is what Mr. Wallace thinks is a new species of *Charmosyna*.

† This will stand as *Geoffroiius aruensis*, having been described by Mr. G. R. Gray from Mr. Wallace's specimens as *Psittacus aruensis* (Proc. Zool. Soc. 1858, p. 183).

‡ The *Trichoglossus* from Macassar is *T. ornatus*. There are examples of this species in the Leyden Museum from Celebes collected by Forsten, and from Bouton collected by Müller.

Mr. Fraser, who is now collecting in the Andes of Ecuador, dates his last letters from Pallatanga, on the Pacific slope of the western range of the Cordillera, south-westwards of Riobamba, in the *tierra caliente*. His first collection from this spot, which has just arrived, contains about 110 species, among which are many scarce birds, such as the curious Toucan (*Andigena laminirostris*), some rare Tanagers (*Saltator atripennis* and *Buarremon leucopterus*), and several undescribed species of different families. But the most remarkable thing in the collection, and indeed one of the most extraordinary birds lately discovered, is a new Umbrella-bird (*Cephalopterus*) with a very elongated throat-lappet, nearly as long as the whole body of the bird. This we propose to call *Cephalopterus penduliger**. It will be described at length, and its differences from the two previously known species (*Cephalopterus ornatus* and *C. glabricollis*) pointed out, in the report on Mr. Fraser's collections submitted to the Zoological Society. Meanwhile the accompanying figure by Mr. Wolf (Pl. III.) will give a good idea of its strange appearance.

---

* Gould, Proc. Zool. Soc. 1857, p. 222.

† Temminck, Pl. Col. 458.

‡ *Geocichla erythronota*, Sclater.

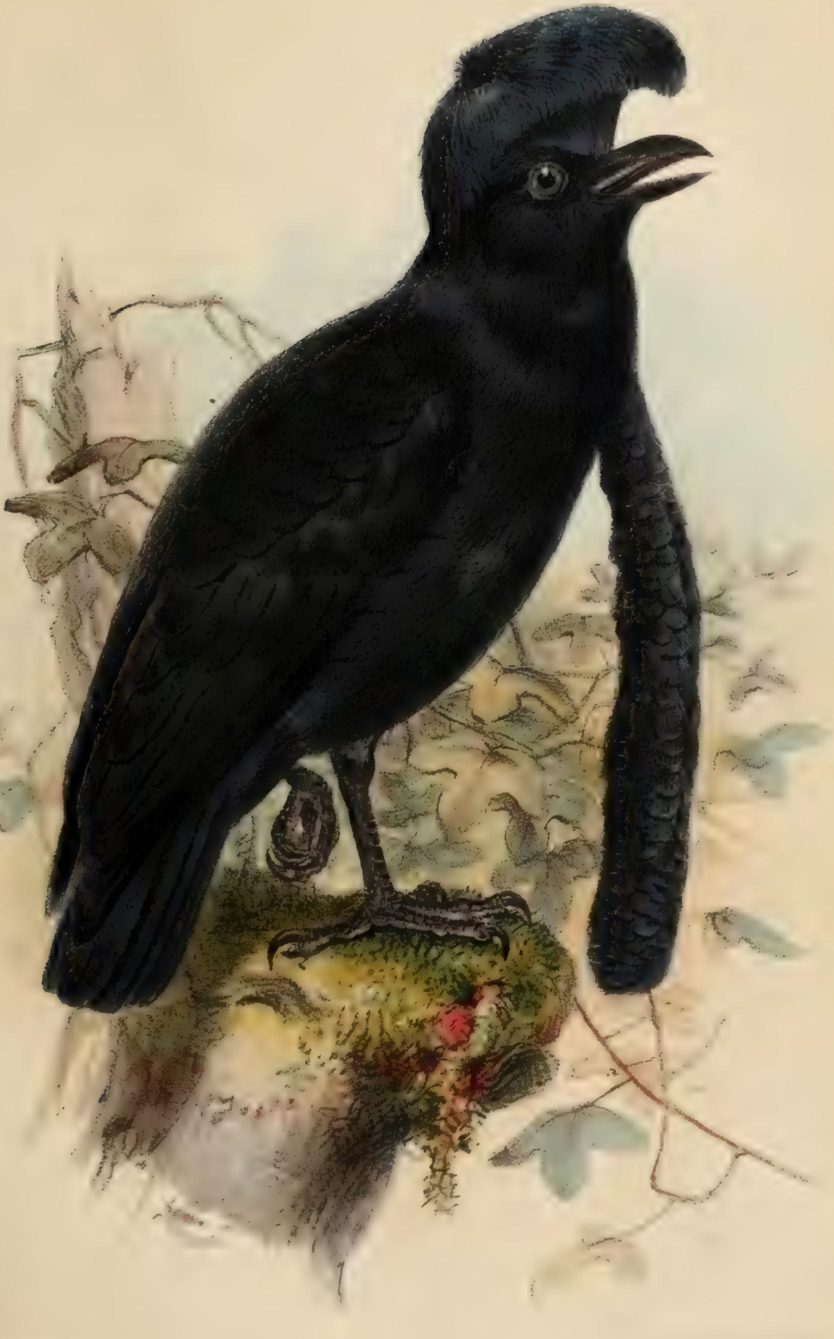
G. suprà castanea: alis, caudâ, lateribus capitis et corpore subtùs ad medium pectus intensè nigris; maculâ utrinque inter oculum et rictum, alterâ in regione auriculari, tectricum alarium apicibus et primariorum ad basin marginibus externis, rectricis extimæ maculâ terminali et secundæ maculâ minore, albis: abdomine crissoque albis, ventre nigro tanquam squamato: rostro plumbeo, apice flavâ, pedibus flavis: long. tota 8·0, alæ 4·5, caudæ 3·0.

M. Mouhot de Montbeilliard of Jersey has safely arrived at Bangkok, whence he was preparing to start, as soon as the dry season should commence, to explore the natural productions of the unknown interior of the kingdom of Siam. His first collections may be expected very shortly. His agent is Mr. S. Stevens, of 24 Bloomsbury Street.

A letter from Mr. Blyth of the Calcutta Museum, dated in June last, announces the arrival of some interesting novelties from the Andaman Islands:—"Among the birds I received a handsome new Sháwa (*Kittacincla albiventris,* nobis). Form typical, but with the four medial tail-feathers much less elongated than in *K. macroura*; the abdominal region, tibial plumes, axillaries, and forepart of wing underneath pure white; vent and lower coverts only, and hindermost portion of the flanks deep ferruginous, as in the other: otherwise like *K. macroura*." Mr. Blyth also speaks of a new Pheasant which he has described as *Diardigallus fasciolatus*. Five males were brought alive to Calcutta, supposed

---

* It is smaller considerably than *C. ornatus*, measuring—whole length 14½ inches, wing 9½, tail 4½, bill from front 1·7, tarsus 1·8, throat-lappet 8½. The corresponding measurements of a fine specimen of *C. ornatus* in Mr. Gould's collection are, whole length 17½ inches, wing 11, tail 6½, bill from front 1·9, tarsus 2·1, throat-lappet 4·0. In *C. penduliger* the throat-lappet is long and narrow, and there is no bare space on the neck; in *C. ornatus* the lappet is short and broad, covering a naked space; in *C. glabricollis* the whole fore-neck and chest as well as the basal part of the lappet itself are denuded. In *C. penduliger,* again, the under wing-coverts are partly white, in *C. ornatus* they are quite black.



M & N Hanhart Imp.

CEPHALOPTERUS PENDULIGER.

to be from Borneo, but no female. A sketch and parts of the feathers enclosed would seem to indicate its being a very remarkable species—"the crest-plumes of curious structure: size of the various species of *Gallophasis*: the figure slim and game-looking, with bright red legs, and fully as much papillose crimson skin about the face as the *Nycthemerus*." We have not yet met with Mr. Blyth's published description of this singular bird.

In a letter just received by Sir William Jardine from Professor Jameson of Quito, that gentleman states, "On the 1st of the present month (November) I made an excursion to the farm of Antisana. The farm-house is situated at an elevation of 13,454 feet above the sea-level, and is uninhabited, except on special occasions. In an apartment on the ground-floor I found some nests of *Oreotrochilus pichinchæ*. I am certain as to the species. One of the nests was attached to the extremity of a straw-rope hanging from the roof."

Most of our readers will probably have seen the prospectus of M. A. Malherbe of Metz, announcing the immediate commencement of the publication of his long-promised monograph of the Woodpeckers. M. Malherbe now begs us to announce a slight alteration in the plan of publication, in that he only intends to issue a livraison every two months, instead of every twenty days. Moreover he has resolved to strike off only 75 copies of the plates, after which the stones will be effaced; so that those who desire to possess the work should send in their names* without loss of time.

The Zoological Society have lately added to their collection fine examples of Darwin's Rhea, and the common Cassowary, so that the following extraordinary assemblage of *Struthiones* may now be seen alive in the Gardens:—*Struthio camelus*, *Rhea americana*, and *R. darwinii*, *Dromæus novæ hollandiæ*, *Casuarius galeatus* and *C. bennettii*, and *Apteryx mantellii*.

Should any wandering naturalist be inclined for a few months' excursion next spring, and not know where he may profitably betake himself, we present him with an account of what he may

---

[*] Direct "à M. Alfred Malherbe, Conseiller à la Cour Impériale, Metz, France." The work will appear in 25 livraisons, at 18 fr. each, forming two folio volumes.

expect to find in the neighbourhood of Tarsus, a port which may be easily reached by the French and Austrian steamers of the Levant line from Smyrna and Rhodes.

"A shooting excursion in the Cilician Taurus would be no disagreeable amusement; for it would not be difficult, directly on leaving the steamer down in the plains, to kill Francolins, Wild Swine, two species of Gazelles, the yet undetermined Stag of the Pyramus woods, Beavers, black Fishing-otters, Jackals, and striped Hyænas, not to speak of a multitude of marsh and water fowl, with which the wide sedgy expanse of brackish waters abounds.

"When the heat of the plains becomes excessive, the sportsman may ascend to the hills to search out the Leopards in the rocky hollows, which, however, are among the rarities. But the Boar is not uncommon in the mountain woods, the Ptarmigan, Jackal, and striped Hyæna ascend up to an elevation of 3000 feet, and the great pale yellow Vulture is to be found wherever a beast is killed. Passing through the wide woods, which girt the hills, one meets with the Syrian Bear, and hither too the Leopard retreats in the summer time from the heat of the low country, while the black-eared Lynx makes his permanent abode here in company with the Bears, which ravage the vineyards. Badgers too, Syrian Squirrels, Hares, Foxes, and particularly Jackals, are not uncommon in the neighbourhood of the villages, and the Wild Boar range through the valleys up to the borders of the hills. Of feathered fowl, Ptarmigan and Wild Doves are generally diffused. The Moufflon is seldom seen, yet the inhabitants of Güllek get from 10 to 20 head every year. What has been already said might perhaps seem sufficient to show that Cilicia invites the visit of the sportsman. But the most noble game of all inhabits the mountain region. The Steinbock* exceeds the European species in dimensions by one-third. It often reaches a length of 6½ feet. In its company live *Viverra sarmatica*, and a noble bird, possessing a fine-sounding call, *Tetraogallus caucasicus*. They all find a follower in the *Gypaëtus*, which is however rare."—*Kotschy*, 'Reise in den Cilicischen Taurus über Tarsus.' Gotha, 1858.

---

* Perhaps *Capra caucasica*, Gülderst.?—Ed.

THE IBIS.

No. II. APRIL 1859.

XII.—*On the Ornithology of Central America.* Part II. By PHILIP LUTLEY SCLATER and OSBERT SALVIN.

[Continued from p. 22.]

(Plates IV. and V.)

Subtribus II. *Tracheophonæ.*

Fam. XV. ANABATIDÆ.

Subfam. ANABATINÆ.

122. ANABATES RUBIGINOSUS, Sclater, P. Z. S. 1856, p. 288.

Transmitted by Mr. Skinner. In Sir William Jardine's and Salvin's collections. Irides marked "red."

123. SYNALLAXIS ERYTHROTHORAX, Sclater, P. Z. S. 1855, p. 75, pl. 86.

Originally described from examples collected in the vicinity of Coban by Delattre. M. Sallé has transmitted specimens of this bird from the vicinity of Cordova, Vera Cruz, as also of the *Anabates*, of which he was the original discoverer.

Subfam. DENDROCOLAPTINÆ.

124. PICOLAPTES AFFINIS, Lafr. R. Z. 1850, p. 275.

Pacific coast-region. Runs up the trees like a *Certhia*. Observed frequently.

125. PICOLAPTES —— ?

A second species of this genus was obtained by Mr. Leyland, near Omoa.

126. Dendrocops anabatinus, Sclater, P. Z. S. 1859 (Jan. 25th).

Omoa (Leyland).

127. Xiphocolaptes emigrans, sp. nov. *Xiphocolaptes albicollis*, Sclater, P. Z. S. 1857, p. 202.

An accurate examination of specimens of the large Central American and S. Mexican *Xiphocolaptes* has convinced us that it is specifically quite distinct from *X. albicollis* of Brazil, as indeed might have been expected from its "habitat." It does not appear to have come under the observation of M. de Lafresnaye, not being included in his Monograph of this group in the 'Revue et Magasin de Zoologie.' It differs from *X. albicollis* in its straighter, thicker, and lighter-coloured beak, which is of a dirty horn-coloured white except at the base; in the entire absence of the black abdominal cross-bands, which particularly distinguish *X. albicollis*; and in the less extension of the white on the throat. The whole length of a specimen in Sclater's collection is 12¼ inches, wing 5½ inches, tail 4¼ inches. Its size, therefore, renders it easily recognizable among the other species of the group found in the same country.

128. Dendrocolaptes sancti-thomæ (Lafr.); Sclater, P.Z.S. 1858, p. 96.

Named from S. Thomas, near the mouth of the Rio Dulce, on the bay of Honduras—a Belgian colony, and not, as is supposed (P. Z. S. *loc. cit.*), from the island. In the collection of P. L. S. from Honduras.

129. Sclerurus guatemalensis (Hartl.). *Tinactor guatimalensis*, Hartl. R. Z. 1844, p. 370.

We have not yet met with specimens of *Sclerurus* from Guatemala. It may probably be identical with *S. mexicanus*, but Dr. Hartlaub's description does not agree with that bird.

Fam. XVI. FORMICARIIDÆ.

Subfam. Thamnophilinæ.

130. Thamnophilus doliatus (Linn.).

This bird is common about Dueñas. It is always found in the very thickest underwood, near, but not upon the ground. It is by no means shy, but it is hard to procure good specimens from the difficulty of keeping it in sight at a distance sufficient to avoid spoiling them.

131. THAMNOPHILUS MELANURUS, Gould?

Vicinity of Omoa (Leyland). It is likely that this northern bird is really specifically distinct from the true *T. melanurus* of the valley of the Amazons.

Subfam. FORMICIVORINÆ.

132. FORMICIVORA BOUCARDI, Sclater, P. Z. S. 1858, p. 300.

Mr. Leyland obtained a female specimen near Omoa.

133. CERCOMACRA TYRANNINA, Sclater, P. Z. S. 1858, p. 245.

A pair of this species are in the Derby Museum, obtained near Coban by Delattre. Mr. Leyland obtained one example—a female—near Belize.

Subfam. FORMICARIINÆ.

134. GYMNOCICHLA NUDICEPS (Cassin); Sclater, P. Z. S. 1858, p. 274.

Vicinity of Omoa (Leyland).

135. GRALLARIA GUATEMALENSIS, Prev., Voy. Vénus, Ois. t. 2; Sclater, P. Z. S. 1856, p. 294.

Specimens of this bird in the Derby Museum at Liverpool were collected by Delattre at Coban in June 1843.

Fam. XVII. TYRANNIDÆ.

Subfam. TÆNIOPTERINÆ.

136. SAYORNIS AQUATICA, sp. nov.

Fuliginosa: secundariis alarum et caudæ rectrice extimâ extùs albo marginatâ: ventre medio albo: rostro et pedibus nigerrimis: long. totâ 9·25, alæ 3·25, caudæ 3·1, tarsi 0·7, rostri à rictu ·8.

Aff. *Sayornithi nigricanti* et *S. cineraceæ*, sed ab hâc alis minùs albis et pogonio rectricis extimæ non omninò albo, ab illâ crassitie minore et crisso fuliginoso distinguenda.

This species is resident at Dueñas, where it may always be found a short distance from the village, up the stream of the river Guacalate. Sometimes, however, it occurs about the lake. In its actions it is lively and restless, little resembling the Tyrants in these respects. It is always found near water, and is generally to be seen sitting on a stone on the margin, from which it constantly darts to seize a fly or insect from the surface.

Mr. Gould possesses a Guatemalan example of this species in no way differing from the Dueñas bird.

Subfam. TYRANNINÆ.

137. ATTILA CITREOPYGIA, Bp.; Sclater, P. Z. S. 1857, p. 228. Transmitted by Mr. Skinner. In Mr. Gould's collection.

138. SCAPHORHYNCHUS MEXICANUS, Lafr. R. Z. 1851, p. 473. Transmitted by Mr. Skinner.

139. PITANGUS DERBIANUS (Kp.): *Saurophagus derbianus*, Kaup, P. Z. S. 1851, p. 44, pl. 36: *Saurophagus guatemalensis*, Lafr. R. Z. 1852, p. 462.

This species occurs abundantly at Belize in December. At Dueñas it appears to be only a summer visitant, as it was found breeding there in the month of May, not having previously been observed. It builds a large loose nest with a great deal of superfluous matter about it, the entrance being at one side. The single nest found was composed entirely of small twigs, and was placed at the end of a branch about twenty feet from the ground. The eggs were laid about the third week in May. They are slightly pear-shaped, and in colour of a pale creamy white, spotted and blotched with brick-red; they measure, axis 1 in. $2\frac{1}{2}$ lines; diam. $10\frac{1}{2}$ lines.

140. MYIODYNASTES LUTEIVENTRIS, Sclater, P. Z. S. 1859 (Jan. 25th).

Transmitted by Mr. Skinner. In the collections of Mr. Gould and O. S.

141. TYRANNUS INTREPIDUS (Vieill.). (N. A.)

Mr. Gould's collection contains an example of this bird transmitted to him by Mr. Skinner.

142. TYRANNUS VOCIFERANS, Sw. Quart. Journ. Sc. 1826, p. 273; Baird's Rep. p. 174. *Tyrannus cassinii,* Lawrence. (N.A.)

Transmitted by Mr. Skinner from Salamá, Vera Paz.

143. TYRANNUS MELANCHOLICUS (Vieill.).

This is a very abundant resident species about Dueñas. It builds in the month of May an open nest, slight in texture and flat in form. This structure is composed of sticks, with a few fine roots and horse-hair inside, and is usually placed at the end of a branch, at various heights from the ground. The eggs, generally four in number, are spotted with three shades of red on a creamy-white ground. Some examples measure—axis 11½ lines, diam. 8 lines, but others are more rounded in form.

144. MILVULUS MONACHUS, Hartl. R. Z. 1844, p. 214: *Milvulus tyrannus,* Sclater, P. Z. S. 1856, p. 297.

Scarcely different from the S. American *M. tyrannus.* It occurs at Estansuelas, a village on the road between Izabal and Guatemala. Mr. Skinner has transmitted examples of it, as also of

145. MILVULUS FORFICATUS (Gm.); Pl. Enl. 677; Baird's Rep. p. 169.

146. MYIARCHUS CRINITUS (Linn.); Baird's Rep. p. 178. (N. A.).

Mr. Gould's collection contains a Guatemalan skin of this species.

147. MYIARCHUS LAWRENCII (Giraud); Baird's Rep. p. 181.

A common and resident species at Dueñas, where its peculiarly melancholy note may frequently be heard.

148. MYIARCHUS CINERASCENS (Lawr.): *M. mexicanus,* Baird's Rep. p. 179.

Also found at Dueñas; but it is by no means of such frequent occurrence. Examples were procured at Livingston, at the mouth of the Rio Dulce, in December. We are not quite convinced of the identity of this bird with Dr. Kaup's *Tyrannula mexicana* (P. Z. S. 1851, p. 51), to which Professor Baird has united it.

149. Myiarchus cooperi, Kaup; Baird's Rep. p. 180.

Transmitted by Mr. Skinner. In collection of P. L. S.

150. Contopus borealis (Sw.); Baird's Rep. p. 188.

Transmitted by Mr. Skinner. In Mr. Gould's collection.

151. Contopus mesoleucus, Sclater, P. Z. S. 1859 (Jan. 25th).

Mr. Gould's collection contains Guatemalan examples of this species.

152. Contopus sordidulus, Sclater, P. Z. S. 1859 (Jan. 25th).

Transmitted by Mr. Skinner.

153. Contopus virens (Linn.), Baird's Rep. p. 190.

Also transmitted by Mr. Skinner.

154. Empidonax flaviventris, Baird's Rep. p. 198.

In Mr. Gould's collection from Guatemala.

155. Empidonax minimus, Baird, Rep. p. 195.

Occurs at Belize and Dueñas.

156. Empidonax albigularis, sp. nov.

Suprà sordide olivaceo-brunneus, uropygio rufescente tincto: gutture albo: pectore et cervicis lateribus grisescenti-brunneis: ventre et crisso pallidè flavis: alis et caudâ fusco-nigricantibus, illis pallido brunneo bifasciatis, secundariis extus albido angustè limbatis: tectricibus alarum inferioribus ochracescenti-brunneis: rostro superiore fusco, inferiore flavo: pedibus nigris: long. totâ 4·75, alæ 2·3, caudæ 2·1, tarsi 0·6, rostri à rictu 0·6.

Aff. *Empidonacti minimo*, sed staturâ paulò majore, alarum fasciis brunneis et gulâ purè albâ, dorso quoque obscuriore distinguenda.

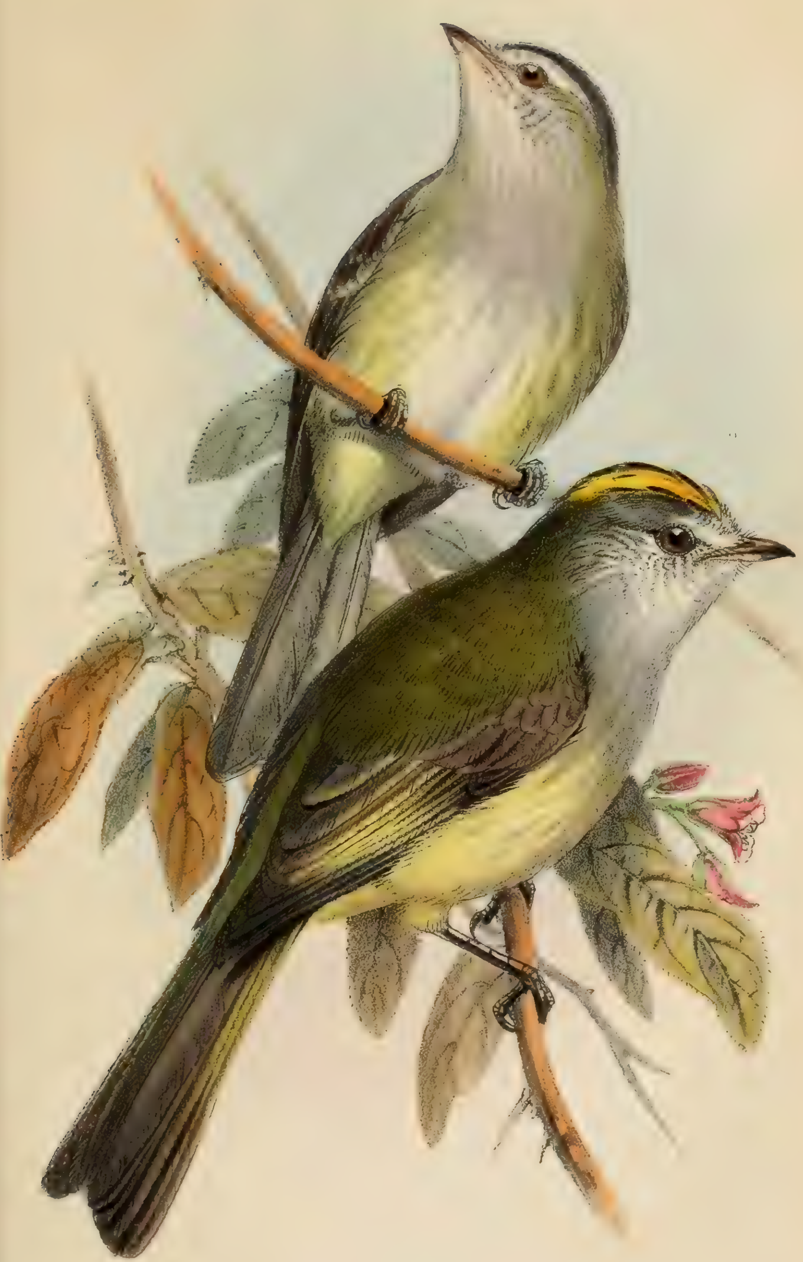
A single example of this apparently undescribed species was shot by Salvin at Dueñas.

157. Mitrephorus phæocercus, Sclater, P. Z. S. 1859 (Jan. 25th).

In Mr. Gould's collection, received from Mr. Skinner.

158. Elainia vilissima, sp. nov. (Plate IV. fig. 1.)

Olivacea, pileo nigricanti-cinereo, fronte et superciliis sordidè albis: alis fusco-nigris, tectricibus majoribus, secundariis et primariis secundâ, tertiâ, quartâ et quintâ ad basin flavo



[illegible]

[illegible]

extùs angustè limbatis: caudâ fusco-nigricante, olivaceo marginatâ: subtus cinerascenti-alba, abdomine toto flavicante, medialiter albescentiore, hypochondriis olivaceo tinctis: tectricibus alarum inferioribus flavis: rostro superiore nigro, inferiore fusco: pedibus nigris: long. totâ 5·0, alæ 2·4, caudæ 2·2, tarsi 0·73, rostri à rictu 0·5.

This apparently hitherto unnoticed and obscure species belongs to the section of the genus *Elainia,* which have the head-feathers flat, and not subcrested, as in *E. pagana* (the type of the genus), *E. placens,* and others. Mr. Skinner has transmitted several examples of it, which are in Mr. Gould's and Sclater's collections.

159. Elainia placens, Sclater, P. Z. S. 1859 (Jan. 25th): *Elænia* —— ?, Sclater, P. Z. S. 1856, p. 297. (Plate IV. fig. 2.)

Suprà olivacea, pileo cineraceo, cristâ internè flavâ: alis caudâque obscuris, olivaceo extùs limbatis: capitis lateribus cum gutture albescenti-cinereis, ciliis oculorum albis: abdomine et tectricibus subalaribus flavis: rostro nigro, mandibulæ inferioris basi albidâ: pedibus obscurè carneis: long. totâ 5·5, alæ 2·7, caudæ 2·6, tarsi 0·65.

Our figure is taken from a Mexican specimen of this pretty *Elainia* collected by M. Sallé near Cordova, in the month of March. It is a female, but the sexes are probably alike. A similar example is in Mr. Gould's collection received from Guatemala through Mr. Skinner.

160. Legatus variegatus, Sclater: *Elainia variegata,* Sclater, P. Z. S. 1856, p. 297.

Transmitted by Mr. Skinner. In Mr. Gould's collection.

161. Myiozetetes texensis (Giraud). *Muscicapa texensis,* Giraud, B. Texas, pl. 1. *Tyrannula cayennensis,* Sw. Phil. Mag. 1827, p. 367.

An abundant and resident species at Dueñas. It builds in the month of May a nest composed of small roots and strong grass, of light construction, and covered over, having a large hole in the side. The eggs, generally three in number, are of a rich creamy white, thinly spotted at the obtuse end with red; they measure, axis 10¼ lines, diam. 8 lines.

Subfam. PLATYRHYNCHINÆ.

162. **MUSCIVORA MEXICANA**, Sclater, P. Z. S. 1856, p. 295.
Transmitted by Mr. Skinner.

163. **TODIROSTRUM CINEREUM** (Linn.); P. Z. S. 1855, p. 148.
Occurs at Belize in December.

164. **MIONECTES ASSIMILIS**, Sclater, P. Z. S. 1859 (Jan. 25th).

Fam. XVIII. COTINGIDÆ.

Subfam. QUERULINÆ.

165. **LIPAUGUS RUFESCENS**, Sclater, P. Z. S. 1857, p. 276.
Discovered by Delattre near Coban.

Subfam. TITYRINÆ.

166. **TITYRA PERSONATA** (Jard. & Selb.); Sclater, P. Z. S. 1857, p. 70.

Transmitted by Mr. Skinner. One specimen was shot near Iguana, a day's journey from Ysabal, in the coast-region.

167. **PACHYRHAMPHUS AGLAIÆ** (Lafr.); P. Z. S. 1857, p. 74.
Transmitted by Mr. Skinner from Cajabon.

168. **PACHYRHAMPHUS POLYCHROPTERUS** (Vieill.)?
Vicinity of Omoa (Leyland).

Subfam. PIPRINÆ.

169. **CHIROXIPHIA LINEARIS** (Bp.). *Pipra linearis*, Bp. P. Z. S. 1837, p. 113; Gould's Voy. Sulphur, Birds, pl. 20. p. 40. *Pipra fastuosa*, Less. R. Z. 1842, p. 174.

Mr. Skinner has transmitted skins of this beautiful bird from the Vera Paz. Mr. Hinds's specimen, figured in the 'Voyage of the Sulphur,' is said to have been from Realejo, on the Pacific coast of Nicaragua; and M. Sallé informs us that he procured examples near Granada, on the lake of Nicaragua.

170. **MANACUS CANDÆI** (Parzud.).

Originally described from specimens obtained in Honduras, but ranges as far northward along the Atlantic coast-region as the vicinity of Cordova, where M. Sallé obtained examples. See

P. Z. S. 1856, p. 299. Mr. Leyland obtained a female specimen near Lake Peten.

171. PIPRA MENTALIS, Sclater, P. Z. S. 1856, p. 299, pl. 121. Transmitted by Mr. Skinner. In Mr. Gould's collection.

Subfam. COTINGIDÆ.

172. COTINGA AMABILIS, Gould, P. Z. S. 1856, p. 64, pl. 123. From the Vera Paz. Transmitted by Mr. Skinner.

Tribus II. FISSIROSTRES.

Fam. I. CAPRIMULGIDÆ.

173. NYCTIDROMUS AMERICANUS (Linn.)?

Mr. Cassin has referred the Mexican and Central American bird to this species in his 'Catalogue of Caprimulgidæ.' It does not, however, appear to be the same as *Nyctidromus derbianus* (as given by Mr. Cassin), the latter being a much larger bird, and having the outer tail-feather broadly edged with white on the inner web.

Fam. II. CYPSELIDÆ.

174. HEMIPROCNE ZONARIS (Shaw): *Hirundo zonaris*, Shaw; *Acanthylis collaris*, G. R. Gray.

Transmitted by Mr. Skinner.

175. PANYPTILA MELANOLEUCA (Baird): *Cypselus melanoleucus*, Baird, Pr. Ac. Phil. 1854, p. 118; Baird, Rep. p. 141.

This Swift is by no means common in Guatemala; indeed so local is it, that its presence might easily have been overlooked. It is found nearDueñas; and the following extract from Salvin's note-book relates to its capture:—

"On going out with my gun, about three o'clock in the afternoon of February 13th, I followed the course of the river *Guacalate*; and after leaving the open country and the wood beyond, I entered a gorge with precipitous rocks on my right hand. On proceeding up this gorge for about a quarter of a mile, I heard a noise coming from the rock, which I at first took to be bats in some of the cracks. After watching some time, I saw two Swifts dart into a hole, or rather crack in the rock, about twenty feet from the ground; the noise then was louder than ever. Not altogether understanding this, I crossed the river and walked up to the foot of the cliff, and began to throw stones at the hole, to make the Swifts, which I had seen enter, fly out. Stones were no good, so I tried shouts, but with no better success. I then fired my gun at the hole, but still without result, the noise within continuing as loud as ever all the time. My last resource was to climb up as far as I could, and try and poke them out with a bamboo-cane that happened to be lying at my feet. When I had climbed up a little way, what should I see but a dead Swift, which had fallen through the crack, and been caught on the ledge where I found it? It had evidently been killed by my random shot. When I had descended, I fired again, this time frightening out five or six birds, but not, as I thought, killing any. As soon as these five or six got clear of the rock, they were pursued by all the "*Cotylæ serripennes*," of which there were a great number in the valley. As I was watching their flight, down fell a Swift at my feet. I then loaded, and was about to leave the spot, when a third made its appearance, falling down the crack. I again climbed up to where I had found the first, both to see if there were any more, and to examine more closely. Then I found a good many feathers, some pieces of dry grass, and a skeleton of a Swift. This was evidently their common roosting-place, and there were others similar in the same rock; how many inhabited the same hole I cannot say, for after I had shot three, and five or six were flying about, the noise continued as loud as ever." (O. S.)

Fam. III. TROCHILIDÆ.

176. PHAETHORNIS CEPHALUS (Bourc. et Muls.), Rev. Zool. 1848, p. 269; Gould, Mon. Troch. part xvi.

Transmitted by Mr. Skinner.

177. PHAETHORNIS ADOLPHI (Bourc.); Gould, Mon. Troch. part xiv.

This is an abundant species in the forest about Izabal, but the density of the undergrowth renders it extremely difficult to obtain a shot at so small and active an object. The bird is by no means shy, and takes but little notice of an observer, even searching the flowers almost within arm's reach for the insects and honey therein contained. In movement it is extremely elegant and graceful, and, flitting from flower to flower, shows its beautifully-formed tail conspicuously in every motion. Like all others of the family, it selects a small twig for its perch, giving preference to a dead one. While at rest, it trims its feathers dexterously with its bill, which every now and then it cleans, by rubbing it first on one side, then on the other of the twig on which it stands.

178. CAMPYLOPTERUS RUFUS (Less.); Rev. Zool. 1840, p. 73; Gould, Mon. Troch. part iii.

Transmitted by Don José Constancia. It occurs, but very rarely, at Dueñas, and would appear to be an inhabitant of an elevation higher than that district, as it is more numerous about Atitlan.

179. CAMPYLOPTERUS DELATTRII (Less.); Rev. Zool. 1839, p. 14; Gould, Mon. Troch. part x.

This magnificent species was first discovered by M. Delattre at Coban. Numerous examples have since been transmitted to Europe by Mr. Skinner.

180. CAMPYLOPTERUS PAMPA (Less.); Supp. Ois. Mouches, p. 125, pl. 15; Gould, Mon. Troch. part x.

Transmitted by Mr. Skinner.

181. LAMPORNIS PREVOSTI (Less.); Colibris, p. 87, pl. 24; Gould, Mon. Troch. part xv.

Transmitted by Mr. Skinner.

182. PETASOPHORA THALASSINA (Swains.), Phil. Mag. 1827, p. 441; Gould, Mon. Troch. part v.

Transmitted by Mr. Skinner.

183. CYANOMYIA CYANOCEPHALA (Less.); Less. Supp. Ois. Mouches, p. 134, pl. 18; Gould, Mon. Troch. part xi.

About Dueñas this is an abundant species. It frequents the shrubby forest, feeding principally among the flowers of a tree which abounds there. This tree, which grows to a height of about twenty or thirty feet, bears clusters of white flowers, and has its branches and stem covered with spines, which sting when touched. Its bark also, when bruised, emits a milky fluid, which blisters the skin, if any be allowed to remain upon it. The bird, when taking its food from this tree, places itself in front of a bunch of the flowers, and hovers opposite, at a distance of about two or three inches. On perceiving the object of its search, it darts in, and, seizing whatever that may be, insect or honey, returns to its position in front of the cluster. So it passes on from blossom to blossom, and in like manner from cluster to cluster, until the whole tree is thoroughly ransacked. Humming-birds do not remain long on the wing at once, but rest frequently, choosing for that purpose a small dead or leafless twig at the top, or just within the branches of the tree. While in this position, they take the opportunity of trimming their feathers and cleaning their bill, all the time keeping up an incessant jerking of their wings and tail. When this operation has been gone through, they peer about for fresh flowers on which to dart. The cry of the present species is somewhat represented by the work "*chirik*," uttered frequently and with great rapidity. This cry seems common to all the family, and it is only from an intimate acquaintance that one can trace a difference between the species. When they are flying from one place to another, or pursuing one another, this cry is especially used, and in the latter case it is uttered with great vehemence. The humming sound, from which these birds take their trivial name, is something like that produced by a large beetle; but very little practice will soon so accustom the ear, that it seldom mistakes the unseen presence of a Humming-bird for anything else.

184. FLORISUGA MELLIVORA (Linn.); Gould, Mon. Troch. part ii.

185. EUGENES FULGENS (Swains.); Phil. Mag. 1827, p. 441; Gould, Mon. Troch. pt. xii.

186. MYIABEILLIA TYPICA (Delatt. et Less.); Rev. Zool. 1839, p. 16; Gould, Mon. Troch. pt. viii.

187. DELATTRIA HENRICI (Less. et Delatt.); Rev. Zool. 1839, p. 17; Gould, Mon. Troch. pt. viii.

188. DELATTRIA VIRIDIPALLENS (Bourc. et Muls.), Ann. de la Soc. de Lyons, 1846, p. 321; Gould, Mon. Troch. pt. ix.

189. LAMPROLÆMA RHAMI (Less.); Rev. Zool. 1838, p. 315; Gould, Mon. Troch. pt. xi.

190. HELIOMASTER CONSTANTI (Delatt.); Echo du Monde Savant, 1843; Gould, Mon. Troch. pt. v.

Examples of all these six species have been transmitted by Mr. Skinner.

191. THAUMASTURA ENICURA (Vieill.); Gould, Mon. Troch. pt. iv.

On no occasion were the males of this species observed about Dueñas during the months of February and March; indeed it was not until the month of May that both males and females were seen together, at which time, the *nopal* of the cochineal plantations being in full flower, great numbers of Humming-birds, especially of this species, were in the habit of feeding from the blossoms of that cactus. The females during the winter months are common enough, and frequent the same places, and feed principally on the same trees, as the *Cyanomyia cyanocephala*.

192. SELASPHORUS HELOISÆ (Less. et Delatt.), Rev. Zool. 1839, p. 15; Gould, Mon. Troch. pt. viii.

193. SELASPHORUS PLATYCERCUS (Swains.); Gould, Mon. Troch. pt. iii.

194. TRYPHÆNA DUPONTI (Less.), Colibris, Supp. pl. 1; Gould, Mon. Troch. pt. i.

Examples of these three species have been transmitted by Mr. Skinner.

195. TROCHILUS COLUBRIS (Linn.); Gould, Mon. Troch. pt. xv.

This species would appear to be abundant in the winter months in Guatemala, as numerous examples have been transmitted by Mr. Skinner. It occurs at Acatenango, a village on the southern slope of the great Cordillera, showing that it chooses for its winter retreat the moderate climate afforded by the region lying between the elevations of 3000 and 4000 feet.

196. Lophornis helenæ (Delatt.), Rev. Zool. 1843, p. 133; Gould, Mon. Troch. pt. x.

197. Amazillia corallirostris (Bourc. et Muls.), Ann. de la Soc. de Lyons, ix. (1846) p. 328; Gould, Mon. Troch. pt. xiii.

This species seems to be an inhabitant of the hot sea-board only, and does not extend its vertical range to a greater elevation than 2000 feet. In such regions on the Pacific coast it is very abundant, and is, in fact, the commonest of the family, in some parts almost swarming. In every village numbers may be seen flitting about the blossoms of the orange- and lime-trees. Its horizontal range appears to be extensive, and may be said to include the whole of the southern portion of Guatemala from the confines of Chiapas to the State of San Salvador, and probably also embraces the Balsam coast of that Republic, as Capt. Taylor obtained examples on Tigré Island, Bay of Fonseca (P. Z. S. 1858, p. 358).

198. Amazillia riefferi (Bourc.), Rev. Zool. 1843, p. 103: *A. dubusi* (Bourc.).

199. Amazillia arsinoë (Less.).

200. Thaumatias candidus (Bourc.), Ann. de la Soc. de Lyons, 1846.

201. Chrysuronia eliciæ (Bourc. et Muls.), Ann. de la Soc. Sci. de Lyons, 1846, p. 314; Gould, Mon. Troch. pt. xvi.

202. Heliopedica melanotis (Swains.): *Trochilus melanotus*, Swains. Phil. Mag. 1827, p. 441; Gould, Mon. Troch. pt. xv.

203. Eupherusa eximia (Delatt.); Gould, Mon. Troch. pt. xiv.

204. Chlorostilbon caneveti (Less.), Colibris, Supp. pl. 37.

Specimens of these seven species have been transmitted by Mr. Skinner.

Fam. IV. GALBULIDÆ.

205. **Galbula melanogenia**, Sclater, Contr. Orn. 1852, p. 61.

Inhabits the Atlantic coast-region. Specimens were obtained by Leyland near Omoa.

Fam. V. ALCEDINIDÆ.

206. **Ceryle torquata** (Linn.).

Observed on the Rio Dulce, but not obtained; so there may be some doubt as to the species.

207. **Ceryle alcyon** (Linn.). (N. A.)

Shot at Belize, and again on the Golfo Dulce, and appears to be tolerably common in the winter on the Atlantic coast.

208. **Ceryle amazona** (Gm.).

Transmitted by Mr. Skinner. Procured by Capt. Taylor on the lake of Yojoa.

209. **Ceryle americana** (Gm.).

Occurs abundantly everywhere upon the small streams in the Atlantic coast-region and in the interior. Observed near Dueñas frequently, both on the Guacalate and on the outlet of lake of Dueñas.

210. **Ceryle superciliosa** (Linn.).

This species is found in the Pacific coast-region, frequenting the forest-swamps as well as the large rivers. The specimens, on comparison with S. American examples, show no appreciable differences.

Fam. VI. MOMOTIDÆ.

211. **Momotus lessoni** (Less.).

Transmitted by Señor Constancia and Mr. Skinner. A Motmot, probably of this species, was observed both in the Pacific and Atlantic coast-regions. It is usually seen sitting very upright on a low branch of a tree, and uttering its low, melancholy double note—*hōū-hōū*—whence the generic name was doubtless derived. It is by no means shy, and known by the Spanish name of '*Paxaro bobo*,' or stupid bird.

212. **Hylomanes gularis** (Lafr.).

Transmitted by Señor Constancia and Mr. Skinner.

213. Prionirhynchus carinatus (Du Bus); P. Z. S. 1857, pl. 128. et 1858, p. 357.

Obtained by Capt. Taylor near the lake of Yojoa, Honduras.

214. Eumomota superciliaris (Jard. & Selb.). *Momotus yucatanensis,* Cabot, Boston Journ. N. H. iv. p. 467.

Inhabits the Atlantic coast-region of Yucatan, extending as far round as the Bay of Campeachy.

Fam. VII. TROGONIDÆ.

215. Trogon mexicanus (Swains.); Gould, Mon. Trogonidæ, pl. 1.

Salvin's collection contains Guatemalan examples of this bird.

216. Trogon puella, Gould, P. Z. S. 1845, p. 18: *Trogon xalapensis,* Du Bus.

Mr. Skinner has sent many examples of this bird to Europe, transmitted to him from the Department of Vera Paz. It occurs in the Pacific coast-region. It is therefore in the '*tierra caliente,*' and not in the mountainous district, that *T. puella* is found.

217. Trogon caligatus, Gould, Mon. Trogonidæ, pl. 7.

This is an abundant species in the Pacific coast-region.

218. Trogon melanocephalus, Gould, Mon. Trogonidæ, pl. 12.

Guatemala and Honduras.

219. Trogon citreolus, Gould, Mon. Trogonidæ, pl. 13.

Mr. Gould's example of this rare Trogon is said to be from Yucatan.

220. Trogon massena, Gould, Mon. Trogonidæ, pl. 16.

Honduras (Leyland).

221. Pharomacrus paradiseus (Bp.): *Trogon pavoninus,* Temm. (nec Spixi) Pl. Col. 372: *Trogon paradiseus,* Bp. (1826): *Pharomacrus mocinno,* De la Llave, Registro Trimestre, i. p. 48 (1831): *Calurus resplendens,* Gould, Mon. Trog. pl. 21; Rev. Zool. 1843, p. 63.

Though this most beautiful of all the Trogons has never come under the observation of a naturalist since M. Delattre discovered it at Coban, and consequently nothing further can be added to our knowledge of its habits, yet the following observations define the limits to which its range extends. The altitude at which this species is found exceeds 6000 feet, and it would appear to occur more or less numerously in all the mountainous districts that attain such an elevation. A few may be found at Calderas, in the Volcan de Fuego, according to Mr. Wyld of Dueñas, who says that the females are much more numerous than the males in that locality, and that the males are seldom seen.

The Department of Quesaltenango, and its capital of the same name, the second city in Guatemala, derive their appellation from this bird,—"*Quesal*" being the term applied in the Kachiquel language to this Trogon, the termination "*tenango*" signifying the place of. Hence Quesaltenango is, *par excellence*, the place of the Quesal. However, it is from Coban and its neighbourhood, in the Department of Vera Paz, that the whole of the skins that find their way to Europe are procured; and judging from the great number of specimens that are sent, the bird must be very numerous in that locality.

Tribus III. SCANSORES.

Fam. I. CUCULIDÆ.

222. DROMOCOCCYX MEXICANUS, Bp. P. Z. S. 1856, p. 308.
Transmitted by Mr. Skinner from Cajabon, Vera Paz.

223. DIPLOPTERUS EXCELLENS, Sclater, P. Z. S. 1857, p. 228.
San Pedro, Honduras (Leyland).

224. PIAYA MEXICANA (Sw.), Phil. Mag. 1827, p. 440; Sclater, P. Z. S. 1856, p. 308.

Honduras (Taylor), Guatemala (Constancia), Lake of Peten and Omoa (Leyland).

225. PIAYA ERYTHROPYGIA, Less. Rev. Zool. 1842, p. 209; Des Murs, Icon. Orn. pl. 66.

The following remarks, referring to the only specimen seen, are from Salvin's note-book:—

"As we were riding from Subinal to Laguna, two villages on the road from Izabal to Guatemala, the latter being about eleven leagues from the capital, my attention was called by one of my companions to a bird he had just seen cross the road. The underwood was very dense at that part, and I had great difficulty at first in catching a glimpse of the bird; and when I succeeded, its distance from me was so short that I for some time hesitated to shoot, my gun being loaded with No. 6 only. Seeing no prospect of a better shot, I at last fired, and reduced my specimen to a mangled mass, which I was only just able to make into a very indifferent skin.

"As the time between my first seeing the bird and shooting it occupied some minutes, I was enabled to watch it closely. Its habits assimilate to those of the *Geococcyx affinis*, and it skulks along the ground as that species does, now running rapidly, now standing still with its head erect. But it differed from *G. affinis* in climbing about the branches of the low underwood. The song of this Cuckoo, though short, is peculiarly rich in its tone, and there is a mellowness in each note that I have seldom heard surpassed. An Indian to whom I showed it at Laguna called it '*El reloz*,' or '*The watch*,' and said that it sang at every hour of the day, the length of the song depending upon the hour; thus, he said, that at 1 o'clock it sang a very short song, and at 12 o'clock a very long one! Another Indian called it '*El pajaro tonto*,' or '*The foolish bird*,' a name strictly applicable, as I could have almost caught the one I shot with my hand."

The principal colour of the bare skin at the back of the eye is almost cobalt-blue; the legs are brownish yellow, and the irides dark.

226. GEOCOCCYX AFFINIS, Hartl. Rev. Zool. 1844, p. 215.

This Cuckoo is abundant all over the Central region, and also occurs, though sparingly, in the Atlantic coast-region.

The habits of this curious bird, especially in the way it runs, remind one much of the large lizard commonly known in Guatemala as the "*Iguana*." It passes rapidly across the road, as that reptile does, first peering out of the underwood before making a rush, and now and then stopping, just before diving in again, to take a final survey. The bird is by no means shy, often remaining quite still by the side of a path, looking at you with a sort of inquiring gaze, as if it had never seen man before. The Spanish name for it is "*Sigamonte.*"

227. Crotophaga sulcirostris, Sw. Phil. Mag. 1827, p. 440.

Though the habits of this bird closely resemble those of its congener, *C. ani*, of the West India Islands, of which Mr. Gosse, in his 'Birds of Jamaica,' gives a full description, the notes of the two species are quite different, and resemble each other only in character. It occurs commonly at Dueñas, and was found in the vicinity of Omoa by Leyland.

Fam. II. RHAMPHASTIDÆ.

228. Rhamphastos carinatus (Sw.); Gould, Mon. ed. 2, pl. 7.

Along the banks of the Rio Dulce this Toucan is abundant. It is known to the negro sailors as the "Billy-goat," to the bleating of which animal the cry of the bird has a faint resemblance.

229. Pteroglossus torquatus (Wagler); Gould, Mon. ed. 2, pl. 14.

Like the last, occurs on the Rio Dulce, but is not so numerous. It is found also in the Pacific coast-region, where it is not uncommon in the neighbourhood of San Sebastian.

230. Aulacorhamphus prasinus (Gould), Mon. ed. 2, pl. 29.

A true inhabitant of the mountainous districts and central coast-region. It occurs at Calderas, also in Vera Paz, from which last locality Mr. Skinner has sent numerous examples. The Spanish name for all the Toucans is "*Cucharon.*"

Fam. III. PICIDÆ.

231. Dryocopus guatemalensis (Hartl.), Rev. Zool. 1844, p. 214: *D. regius*, Reichb.

Extends from S. Mexico, where it was procured by Sallé (P. Z. S. 1857, p. 226), through Guatemala to Honduras, where Captain Taylor obtained specimens. See P. Z. S. 1858, p. 359.

232. Dryocopus scapularis (Vig.): *D. leucorhamphus*, Reichb.

Seems to have the same range as the preceding, having been also procured in the two last-mentioned localities. Transmitted by Mr. Skinner from Vera Paz. Salvin saw either this or the former species near the city of Guatemala fly from a tree, which it was ascending, and return, after seizing an insect in the air.

233. CAMPEPHILUS IMPERIALIS (Gould) ?

This largest and finest of all the *Picidæ* is believed to occur in the densely-wooded *barrancos* which are scored out in the sides of the Volcan de Fuego. The description given by Mr. Wyld, of Dueñas, of a specimen shot by him, seems to correspond to no other known species.

234. CENTURUS SANTACRUZI, Bp. P. Z. S. 1837, p. 116: *Picus dubius*, Cabot.

Seems generally distributed in Guatemala, occurring principally in the coast-region; but also seen at Dueñas. Dr. Cabot says that this bird is not uncommon in Yucatan. Captain Taylor procured it near Comayagua, Honduras, and Mr. Skinner has transmitted examples from Salamá, Vera Paz.

235. CENTURUS PUCHERANII (Malherbe); Bp. Consp. i. p. 120.

Vicinity of Omoa (Leyland).

236. SPHYROPICUS VARIUS (Linn.); Baird, Rep. p. 103.

Transmitted by Mr. Skinner.

237. PICUS JARDINII, Malherbe; P. Z. S. 1858, p. 359.

Procured by Capt. Taylor in Honduras, near Taulevi; and extends as far northwards as Orizaba.

238. PICUS SCALARIS, Wagler: *Picus parvus*, Cabot.

Obtained by Dr. Cabot in the neighbourhood of Tocul, Yucatan.

239. CHLORONERPES YUCATANENSIS (Cabot); Sclat. P. Z. S. 1856, p. 307.

Yucatan (Cabot). Occurs near Dueñas, but not very commonly.

240. CHLORONERPES SANGUINOLENTUS, Sclater, P. Z. S. 1859 (Jan. 25th).

Near Omoa (Leyland).

241. **Melanerpes formicivorus** (Sw.).

Is found in the central region. Specimens were obtained at Calderas, on the Volcan de Fuego, where it frequents the forests of evergreen oaks and feeds upon the acorns.

242. **Celeus castaneus** (Wagler); P. Z. S. 1858, p. 359.

Specimens of this species were obtained by Leyland in his recent expedition to Honduras, and by Capt. Taylor on the Interoceanic railway route, on the Atlantic slope. It seems confined to the hot coast-region.

243. **Colaptes mexicanoides**, Lafr. R. Z. 1844, p. 42: *Colaptes rubricatus*, Gray and Mitch. Gen. B. pl. 111 (nec Licht.).

This is quite a distinct species from *Colaptes mexicanus*. (Confer Baird, Gen. Rep. p. 121.) Specimens were procured by Delattre near Coban. It was observed to occur abundantly in the *barranco* of Los Chocoyos, in the Altos of Guatemala, in May 1858. Gray and Mitchell's plate gives a very good representation of the male, though the synonyms quoted are all referable to *C. mexicanus*. The female has the rictal spot brown, like the head, instead of red. In *C. mexicanus* the female has *no* rictal spot.

Fam. IV. PSITTACIDÆ.

Subfam. Arinæ.

244. **Ara aracanga** (Gm.); Pl. Enl. 12; Wagler, Mon. Psitt. p. 672.

This *Ara* is common in the Pacific coast-region, and generally seen in pairs. They keep to the topmost branches of the forest trees, and, as in captivity, are very noisy. The bird is commonly known as "*Guacamaya*."

245. **Conurus astec**, Souancé, Rev. Zool. 1857, p. 97.

Obtained by Leyland at Belize. In collection of P. L. S.

246. **Conurus lineolatus** (Cassin): *Psittacula lineolata*, Cassin, P. Ac. Sc. Philad.: *Bolborhynchus catharina*, Bp. Compt. Rend. xliv. p. 538.

The example of this Parrot in the collection of Dr. Cabot of Boston was obtained by him in the island of Cosumel, Yucatan.

Subfam. PSITTACULINÆ.

247. PIONUS SENILIS (Spix).

Transmitted by Mr. Skinner.

248. CHRYSOTIS AURIPALLIATUS (Less.): *Amazona auropalliatus*, Less. Descr. Mamm. et Ois. p. 198: *Psittacus flavinuchus*, Gould, Zool. Voy. Sulphur, p. 45, pl. 27.

This Parrot is common in the Pacific coast-region of Guatemala.

249. CHRYSOTIS ALBIFRONS (Sparm.); Souancé, Icon. des Perr. pl. 30; P. Z. S. 1858, p. 35.

250. CHRYSOTIS —— ?

A young bird in Sclater's collection, from Omoa (Leyland), is difficult to determine, but not improbably belongs to an undescribed species.

There are considerable additions to be made to the present list of Central American Parrots.

EXPLANATION OF PLATE V.

Fig. 1. Egg of *Tanagra vicarius* (p. 16).
Fig. 2. Egg of *Pyrgisoma biarcuatum* (p. 18).
Fig. 3. Egg of *Pitangus derbianus* (p. 120).
Fig. 4. Egg of *Tyrannus melancholicus* (p. 121).
Fig. 5. Egg of *Myiozetetes texensis* (p. 123).
Fig. 6. Egg of *Cyanocitta melanocyanea* (p. 21).
Fig. 7. Egg of *Turdus grayii* (p. 5).

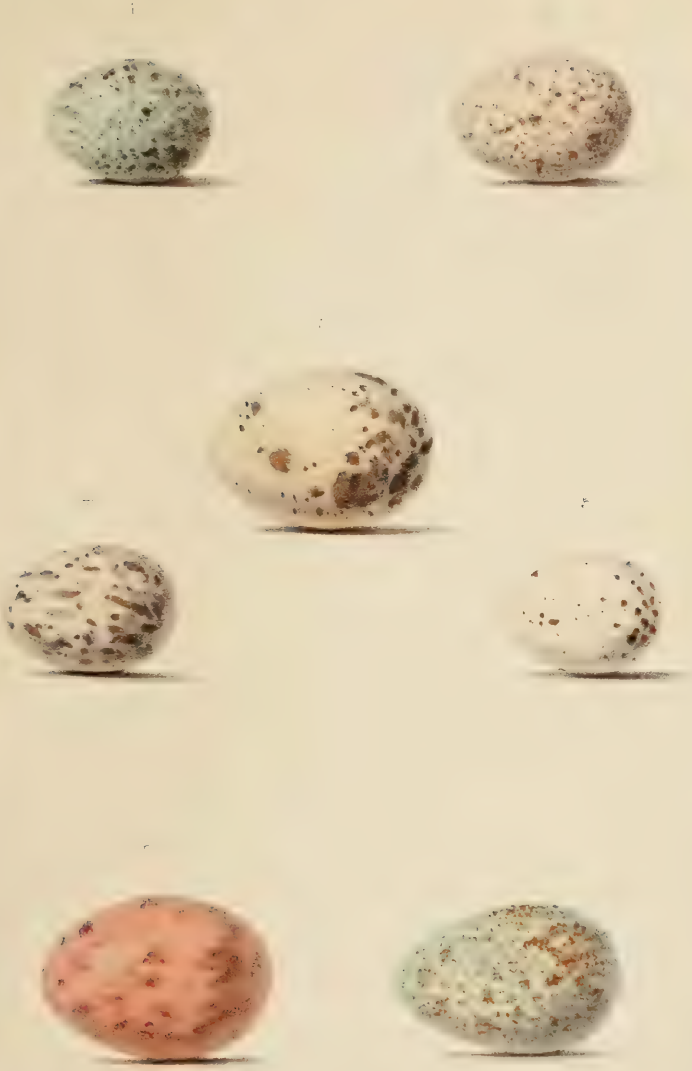
[To be continued.]

XIII.—*Observations on the Birds of St. Croix, West Indies, made, between February 20th and August 6th* 1857 *by* ALFRED NEWTON, *and, between March 4th and September 28th* 1858 *by* EDWARD NEWTON. (Part II.)

[Continued from p. 69.]

† 8. GRASS-GREEN-BREASTED HUMMING BIRD. *Eulampis chlorolæmus*, Gould, Monogr. Troch. pt. xiv. "Doctor Bird."

This is the only species of this wonderful group of little birds that is at all common in St. Croix. Wilson, Audubon, Mr.



[illegible] [illegible] Dixon

Gosse, and several others gifted with the "pen of a ready writer" have so fully described, as far as words will admit, the habits of different members of the family *Trochilidæ*, that it is unnecessary to say much on this score. Their appearance is so entirely unlike that of any other birds, that it is hopeless to attempt in any way to bring a just conception of it to the ideas of those who have not crossed the Atlantic; and even the comparison so often made between them and the *Sphingidæ*, though doubtless in the main true, is much to the advantage of the latter. One is admiring the clustering stars of a Scarlet *Cordia*, the snowy cornucopias of a *Portlandia*, or some other brilliant and beautiful flower, when between the blossom and one's eye suddenly appears a small dark object, suspended as it were between four short black threads meeting each other in a cross. For an instant it shows in front of the flower; an instant more, it steadies itself, and one perceives the space between each pair of threads occupied by a grey film; again another instant, and emitting a momentary flash of emerald and sapphire light it is vanishing, lessening in the distance, as it shoots away, to a speck that the eye cannot take note of,—and all this so rapidly that the word on one's lips is still unspoken, scarcely the thought in one's mind changed. It was a bold man or an ignorant one who first ventured to depict Humming Birds flying; but it cannot be denied that representations of them in that attitude are often of special use to the ornithologist. The peculiar action of this, and probably many or all other species of the family, is such, that at times, in flying, it makes the wings almost meet both in front and behind at each vibration. Thus, when a bird chances to enter a room, it will generally go buzzing along the cornice: standing beneath where it is, one will find that the axis of the body is vertical, and each wing is describing a nearly perfect semicircle. As might be expected, the pectoral muscles are very large, indeed the sternum of this bird is a good deal bigger than that of the common Chimney Swallow (*Hirundo rustica*, L.). But the extraordinary rapidity with which the vibrations are effected seems to be chiefly caused by these powerful muscles acting on the very short wing-bones, which are not half the length of the same parts in the Swallow; and accordingly great as this alar action is, and in spite of the contrary opinion entertained by Mr. Gosse (Nat. Sojourn in Jamaica, 240), it is yet sometimes wanting in power, owing doubtless to the disadvantageous leverage thus obtained; and the old authors must be credited, who speak of cobwebs catching Humming Birds.

"On the 3rd of May, 1857, a bird of this species flew into the room where I was sitting, and, after fluttering for some minutes against the ceiling, came in contact with a deserted spider's web, in which it got entangled and remained suspended and perfectly helpless for more than a minute, when by a violent effort it freed itself. I soon after caught it, still having fragments of the web on its head, neck, and wings; and I feel pretty sure that, had this web been inhabited and in good repair instead of being deserted and dilapidated, the bird would never have escaped*."—A. N.

"This bird breeds from the end of March to the end of June. It is an easy matter to find its nest; for on approaching within ten or a dozen yards of where it is, the bird, if it is on, is sure to fly at you, and then retreating remains suspended a few seconds just above your head, when it darts off and perches on some dead twig, most likely on the very tree which holds its nest. It does not stay here long, but takes short flights into the air, returning to the same place, and, when there, showing its impatience by a continual flirting or, rather, twitching of its wings. If you then retire, keeping your eye on the bird, it will presently dart straight on to its nest, leaving it, however, at the least movement on your part. This species is not particular as to the tree on which it builds, as I have found nests on the Silk-cotton, Mango, Manchioneel and Avocado-pear (*Laurus persea*, L.). They are placed on a horizontal branch, from half an inch to two inches thick, and are composed of cotton or the down of a species of *Cactus,* studded on the outside with white *Lichen* or shreds of bark, the whole structure measuring nearly two inches across, and built at the height of from about five to fifteen feet from the ground, sometimes concealed by leaves, at others on an almost naked bough. The eggs are two in number, white, and about 0·55 inch long, by 0·4 inch in transverse diameter."—E. N.

---

* In the 'Zoologist' for 1858 (p. 5922) is a note from Mr. J. M. Jones, in which that gentleman says that the *Vireo noveboracensis* is sometimes captured in the net of the large spider (*Epeira clavipes*) which is found in the Bermudas; and in his recent work, 'The Naturalist in Bermuda' (p. 126), he again repeats the statement, adding, however, that it is only the young of that species which has been known to be thus entangled.

This bird is as common in St. Thomas as in St. Croix. Dr. Lund, writing from St. John's, says it is also found in that island. The females are very much smaller than the males.

† 9. GILT-CRESTED HUMMING BIRD. *Orthorhynchus exilis* (Gmel.): Gould, Mon. Troch. pt. xiii.

After a careful examination of skins procured from St. Croix and St. Thomas, we refer them to the above-named species, though one of a male presents a slightly different appearance from the ordinary type, in having a narrow blue edging to the otherwise golden green crest, and thus exhibiting an affinity to the closely allied Blue-crest (*O. cristatus,* L.) from St. Vincent's and Barbadoes. The present bird has, we believe, hitherto been known only from Martinique and Nevis.

"I shot a female of this species at Southgate Farm, June 8th, 1858; and I only saw two other examples,—one at the same place, and the second at Salt River, when accompanied by Mr. Osbert Salvin, during that gentleman's short visit to St. Croix. Southgate Farm is an estate on the north shore of the eastern end of the island, and, much of the land adjacent being out of cultivation, is chiefly covered with Casha bushes, interspersed with Manchioneel along the coast. This is also the case in the neighbourhood of Salt River. I have been told that a Humming Bird, smaller than the ordinary one, and therefore probably of this species, has been seen in other localities; but it must be very uncommon. Of its habits I know nothing."—E. N.

We beg to acknowledge here the assistance we have received from Mr. Gould in determining this and the species last mentioned.

† 10. PEARLY-EYED THRUSH, *Cichlherminia fuscata,* Bp.

Turdus fuscatus, Vieill., Ois. de l'Amér. Sept. ii. pl. 57 *bis.* "Thrush."

Common in parts of the island overgrown with bush, especially on the hill-sides, and probably resident. The cock has a loud, clear, *Meruline* whistle, and seems as if he ought to sing, but does not. The nest is generally built in the Guava bushes (*Psidium pomiferum,* Linn.), and is a very neat piece of work, greatly resembling that of our Jay (*Garrulus glandarius,* Vieill.), excepting, of course, in size. The eggs, four to six in number, are of a fine spotless blue-green, deeper in colour, as they are larger, than those of the American Robin (*Turdus migratorius,* Linn.). The iris of this bird is of an opaque pearly white. It appears to feed chiefly on fruits and berries, especially Guavas and Mangoes. The sexes do not differ materially; but the bills of individuals vary greatly in size. The moult takes place as early as the end of July, and continues to the end of September. This species is as common in St. Thomas as in St. Croix. It breeds from the end of May to the end of July. Mr. G. R. Gray informs us that Mr. Gould's *Colluricincla fusca* (P. Z. S. 1836, p. 6) is this bird, as shown by the type now in the British Museum, where we have also placed examples of our own bird from St. Croix.

11. GOLDEN-CROWNED WATER-THRUSH. *Siurus aurocapillus,* Sw. *Turdus aurocapillus,* Wils. ii. pl. 14, fig. 2; Aud. pl. 143. "Water-Wagtail."

Apparently only a winter visitant, departing in April, and not common. The action of this bird is very singular, though probably that of all the members of the genus. It walks leisurely about, with its tail elevated perpendicularly, giving it a slight jerk at each step.

12. NEW YORK WATER-THRUSH. *Siurus noveboracensis,* Nutt. *Turdus aquaticus,* Wils. pl. 22. fig. 5; Aud. pl. 433. *Seiurus aquaticus,* Rich. and Sw., Faun. B. Am. pl. 43.

Is tolerably common by the side of quick-running streams, and occasionally seen away from them. It is most often observed sitting on a stone in the midst of the water, slowly jerking its tail in the manner of a Dipper (*Hydrobata,* Vieill.;

Cinclus, Bechst.), and uttering its short quick note, which resembles the sound made by striking two flints sharply together.

13. Black-and-White Creeper. *Mniotilta varia,* Vieill.; Aud. pl. 90. *Certhia maculata,* Wils. pl. 19. fig. 3. "Tree Creeper."

Apparently only a winter visitant, leaving the island at the end of March; almost a thorough Creeper in habits.

14. Parti-coloured Warbler. *Parula americana,* Bp.: *Sylvia pusilla,* Wilson, pl. 28. fig. 3. *Sylvia americana,* Aud. pl. 15.

Like the last-mentioned species, apparently only a winter visitant, but later in the time of its moving northwards.

"I saw one on May 6th, 1858; but most of them had departed about the middle of March."—E. N.

† 15. Yellow Warbler. *Dendrœca æstiva* (Gmel.), Baird. *Sylvia citrinella,* Wils. pl. 15. fig. 5; *S. æstiva,* Aud. pl. 95. "Wild Canary;" "Mule Bird;" "Cage Bird."

Common everywhere, and apparently resident. From its colour, and probably from its song (for it is almost the only bird in the island that can be said to sing), it has received the names by which it is known to the inhabitants. This species seems to be more abundant at the sides of the lagoons than anywhere else; there examples may always be seen, hopping on the outside branches of the Mangroves, both in habit and song much resembling our English Willow Wren (*Phyllopneuste trochilus,* Brehm). Specimens procured agree in all respects with those of the common summer visitant to the United States.

"They build generally in a low shrub, at not more than six feet from the ground, though I once found a nest in a Mangrove at fully ten feet. The nest is composed of coarse bents, sometimes mixed with the flower of a large reed, and woven with cotton- or sheep's wool. The eggs seem to be always three, a number to which West Indian birds appear to be particularly partial."—E. N.

† 16. Prairie Warbler. *Dendrœca discolor* (Vieill.), Baird; *Sylvia minuta*, Wils. pl. 25. fig. 4. *S. discolor*, Aud. pl. 14.

Leaves the island for a few months in summer, but is rather common during the time it is resident.

"I observed this bird last on March 27th, and saw it again Sept. 10th."—E. N.

17. Cape-May Warbler. *Dendrœca tigrina* (Gm.), Baird; *Sylvia maritima*, Wils. pl. 54. fig. 3; Aud. pl. 414; d'Orb. Voy. de l'île de Cuba, Ois. pl. 10. *Certhiola maritima*, Gosse, Ill. B. Jam. pl. 17.

Not at all common; only a winter visitant, and leaving earlier than any other of the migrants observed by us, having, it would appear, a longer journey than most of them to perform.

"I am compelled to differ from Mr. Gosse (B. Jam. p. 87) in the decision he has arrived at about this bird being a *Certhiola*. When I first arrived in St. Croix I had the opportunity of observing its manners for several days; and they were altogether those of a *Dendrœca*. I further took particular care, not only to examine while fresh, but also to preserve, the tongue of a male which I shot on March 19th, 1857. This is now before me; and I am able to compare it with the tongues of *Certhiola*, *Mniotilta*, and *Dendrœca æstiva*. That of *Certhiola* is, besides being penicillate, deeply bifid. Now there is nothing of this conformation in any of the others. Of these, it is true that *D. tigrina* has the most bushy pencil of hairs at the tip; but *Mniotilta* and *Parula* come very near it in this respect: and it is also true that *D. æstiva* differs from these three in having a horny point. If any deduction is to be drawn from the characters of the tongue, *D. tigrina* must be (and very likely should be, on other grounds) removed from the genus *Dendrœca*, but certainly not placed in *Certhiola*."—A. N.

18. Redstart Flycatcher. *Setophăga ruticilla*, Bp.; *Muscicapa ruticilla*, Linn.; Wils. pl. 6. fig. 6; Aud. pl. 40. "Redstart."

This beautiful species, having at first sight so much the appearance of the European Redstart (*Ruticilla phœnicura*, Bp.), is very common in the spring of the year, and especially seen about houses. For about one week at the end of April 1857, they were extremely numerous; but in 1858 the greater part of them left in March, though one was seen May 1st. A male, killed March 17th, 1858, in plumage almost resembled the female. In the same year it was first observed September 6th, on its return from its summer quarters.

19. Long-billed Greenlet. *Vireosylvia altiloqua,* Vieill. Ois. de l'Am. Sept. pl. 38. *Vireo longirostris,* Sw. Faun. Bor.-Am. ii. p. 237; Cassin, Ill. N. Am. Birds, i. pl. 37.

Extremely local, though common in the southern part of the island, where it breeds; but whether it is resident all the year may be doubted. The clear whistle of this bird appears to have always been confounded by the inhabitants with that of the *Cichlherminia fuscata,* which it does somewhat resemble. Mr. Gosse remarks (B. Jam. p. 195) of the species, which he calls *V. olivacea,* that he can scarcely understand how its note can be written "*Whip-tom-kelly,*" as it has been by some American ornithologists; but it appears much more likely that his "*John-to-whit*" is not the true *V. olivacea,* but the present bird, first figured by Vieillot, and afterwards described as new by Mr. Swainson (*locis citatis*): at least, the call-note of the St. Croix species would seem to resemble closely that of the Jamaica bird, whose habits Mr. Gosse so well describes. It is probable, too, that the true *V. olivacea* is also found in Jamaica in winter; and thus may be reconciled the otherwise conflicting statements of authors.

"On June 5th, 1858, I watched a bird of this species to its nest in a Manchioneel, to the leafy part of a bough of which it was suspended. It is a beautiful structure, shaped like an inverted cone, and composed outwardly of dried blades of grass, dead leaves, and wool, woven round the twigs, to which it was attached, with spiders' webs, lined inside with finer blades of grass, and about three inches and a half in diameter and five in height. The eggs, three in number, are white, with a few black spots of different sizes chiefly dispersed about the larger end. Both nest and eggs call to mind those of the Golden Oriole (*Oriolus galbula,* L.), which, except in size, they greatly resemble."—E. N.

† 20. Grey Petchary. *Tyrannus dominicensis*, Bp.: *Muscicapa dominicensis*, L.; Aud. pl. 170. "Chicherywee," "Chicheree."

The most conspicuous and common bird in the island, all over which it is found. Its favourite station is the top of the spear-like unexpanded frond of a tall Mountain-cabbage Tree, from which place it will, in the breeding season, dart down to attack almost any animal passing near, from a stray dog to an unhappy "Gaulin" (*Butorides virescens*, Bp.). If the quarry be the latter, it will make several well-directed stoops, and never leave it until it has "brought it in," as the falconers say, in a cane-piece or bush; then, much pleased with its prowess, it returns to its look-out station, celebrating its victory with cries of triumph. On one occasion, in 1858, a Chicheree was seen to pursue a Gaulin out to sea for a quarter of a mile and back again. The pretty little Killie-killie (*Tinnunculus sparverius*, Vieill.) and the Black Witch (*Crotophaga ani*, L.) are equally with the Gaulin the objects of its hatred; and as all four species have fairly loud voices, the noise of these encounters is not inconsiderable. The Petchary in particular is very clamorous, even when there is no apparent need; but he takes alarm from the domestic poultry, and every morning before dawn, with his oft-repeated note, sounding like the cry of a frightened Chimney Swallow (*Hirundo rustica*, L.), and evidently onomatopœic, is as much the herald of the coming day as Chanticleer himself: this noise he is as pertinacious as a Guinea-fowl in continuing till sun-down. He has much the look of the Ash-coloured Shrike (*Lanius excubitor*, L.), his bold action and his style of colouring both contributing to the resemblance. We have never observed that on any occasion was the flame-coloured furrow on the head opened and displayed. In the nestling plumage it is altogether wanting; but with this exception, and that of the wing-coverts being edged with pale brown, the bird then resembles the adult. The Chicheree feeds on insects, catching them with great dexterity on the wing; but he also indulges largely on the black berries of a myrtle-leaved parasite which grows plentifully on Orange-trees. The seeds of this pass uninjured through the bird's intestines, and when dropped on favourable spots soon germinate,—the bird thus being his own planter, and ensuring a plentiful supply of his favourite food. The nest is often placed under the fronds, or among the spathes, of a Cocoa-nut or Mountain-cabbage tree; but sometimes in any ordinary situation, the end of a bough of a Manchioneel or Turpentine tree being chosen. It is flat in construction, and large for the size of the bird, being nearly a foot in diameter, composed of a platform of twigs, in the midst of which is hollowed a cup, lined with fine roots, and thus in architectural style much resembling that of a Bullfinch (*Pyrrhula vulgaris*, Temm.). The eggs do not seem to exceed three in number, and equal in beauty the most splendid varieties of those of the Red-backed Shrike (*Enneoctonus collurio*, Boie); they are of a delicate creamy-white, marked at the larger end with blotches and spots of pink or orange-brown of different shades and sizes, and often disposed in a zone. The bird has eggs from the end of May till August.

† 21. BLACK-FACED FINCH. *Phonipara bicolor*, Bp. Consp. *Fringilla bicolor*, Linn. *Spermophila bicolor*, Gosse, Ill. B. Jam. pl. 64; Catesby, Nat. Hist. Carol. pl. 37. "Cane," "Parson," and "Java Sparrow."

The Bunting-like song of this very common bird is heard almost as early in the morning as the cry of the Chicheree. It frequents the curing-houses, hopping on the uncovered sugar-hogsheads, and making a plentiful meal therefrom. It is sociable, and generally feeds in small flocks, mostly on the ground, among the Guinea-grass (*Andropogon bicolor*, Roxb.) which is grown as forage for horses. The crops of those we have dissected usually contained small seeds. It builds its domed nest in a low bush, thicket of Bamboo, or even in a creeper planted against a house: this is seldom more than four feet or so from the ground, and is composed entirely of dry grass, the interior being lined with a finer material of the same kind; the opening at the side is large for the size of the nest. It breeds from the middle of May to the end of July. The eggs are white, spotted or blotched with dull red, especially at the larger end, and often very much resemble those of the *Certhiola*, already described. With one exceptional nest of four, three was the number always found.

† 22. Ani. *Crotophaga ani*, L.; Buff. Pl. Enl. 102. "Black Witch."

Very common, and, from its familiar habits and grotesque appearance, universally known. Its manners have so often been described, that there remains little to be said of them. It lives in companies, and is delightfully noisy. It shares, as before mentioned, with *Tinnunculus sparverius* and *Butorides virescens*, the privilege of being the favourite object of the attacks of the Chicheree (*Tyrannus dominicensis*, Bp.); and it is hard to say whether this bird or the one last mentioned affords most amusement. If there is a fresh breeze, a flight after a *Crotophaga* is perhaps the best; for, with its long tail and short wings, it gets carried away helplessly. It loses its presence of mind, and tries perhaps to fly up wind, when "letting drive" would answer by far the best; down then comes the Tyrant, and, after one or two stoops, hits it such a blow as to send it anyhow into whatever shelter presents itself, whether an unpleasant-looking hedge of thorns, or a softer bed of Guinea-grass. In consequence of these encounters, it is, that the Ani's plumage, and especially its tail, suffers very much; indeed, one can scarcely meet with a specimen that has its final appendage at all in good order. There is an absurd notion prevalent in the island, that these birds are exempt from the common lot of creation, and that the name "Black Witch" has something to do with their supposed immortality; but it was more probably originally intended to express the bird's ordinary call-note, which, as Mr. Hill rightly says (Gosse, B. Jam. p. 289), sounds like the word "*que-yuch.*"

"On June 18th, 1857, I was shown a nest of this species. As I walked up to the tree (a pretty large Tamarind), I saw two birds sitting close to what I afterwards found to be the position of the nest, which was placed touching the trunk, supported by some young boughs that had apparently sprouted out within the last few years, and was about five feet from the ground. It was a rude collection of sticks and twigs, large and deep, but partly filled with dead leaves, among which I discovered fourteen eggs; and round the margin were stuck upright a few dead twigs of Tamarind. On the 23rd I again went to this nest, and took out two of the nine eggs I then found; but on the 26th there were only four, the nest having probably been robbed by boys from a Negro village close by. On July 2nd there were eight eggs; but a few days afterwards the nest was entirely destroyed. I never found the eggs, as if intentionally covered up. The nest was evidently common property; there were generally two or three birds sitting close to or on it, and up in the tree perhaps four or five more, who would continue screeching all the time I was there. I found the yelks of the eggs just as described by Mr. Hill in Mr. Gosse's 'Birds of Jamaica;' but on blowing them into a basin of water, they appeared to me to assume a spherical form. When the egg is fresh, the cretaceous deposit on the shell is very soft and easily scored; but it soon hardens considerably."—A. N.

22. Yellow-billed American Cuckoo. *Coccyzus americanus,* Bp. *Cuculus carolinensis,* Wils. iv. pl. 28. fig. 1; Aud. pl. 275; Gould, B. Eur. pl. 242; Yarr. B. B. ed. 2. vol. ii. p. 204.

This occasional straggler to England seems to be confined, at least in the breeding-season, to one locality on the south side of St. Croix,—a level piece of land, overgrown with low bush, and interspersed with a few trees, mostly Manchioneels, through which runs a small stream bordered here and there by bits of swampy ground, which in dry weather are so many warrens of Land-crabs, and surrounded by a few Mangroves. Here its harsh guttural call may very often be heard. It is a tame and stupid-looking bird, but, contrary to the supposed habits of most of the family, appears to show much conjugal affection; for on one occasion a male being shot, and shrieking as it fell, a female instantly flew to the spot, and fluttered along the ground in the manner that an old hen Partridge or other bird would do to lead astray the pursuer of her young.

"On June 2nd, 1858, I shot a female of this species, having an egg in her ovary, nearly ready for exclusion; it was quite soft, but had got its proper colour. In the gizzard of this bird were the remains of two large caterpillars, and a univalve shell. On the 29th of the same month, while riding in the locality above referred to, I saw the white terminal spots of a Cuckoo's tail projecting from a small nest on a Manchioneel that overhung the path. It was built in a very open situation; and the bird, as I rode underneath, was not more than a yard above my head. She sat with nearly all her neck and breast outside the nest, which was only just large enough to contain the eggs; and I could well identify her as of this species. She did not fly off until after I had tied up my pony hard by, and had almost touched her with my stick. There were three eggs, laid side by side in a row, *along* which, strange to say, the bird had been sitting. The nest was some distance from the stem of the tree, and placed loosely on the bough; it was a mere platform of small sticks laid one across another with a few finer twigs and a little grass as a lining: so slightly was it put together, that, on attempting to take it from the tree, it fell to pieces."—E. N.

23. Black-eared Cuckoo. *Coccyzus seniculus,* Gosse, B. of Jam. p. 281 (excl. synon.).

Mr. Sclater informs us that this is identical with Mr. Gosse's specimens from Jamaica; but whether they are truly the same as Latham's *seniculus,* is at present questionable.

"I shot a female of this bird, March 23rd, 1858, at the place indicated as a locality for the species last mentioned. I am not certain that I ever saw it again. Whether this and the preceding are only summer visitors or not, I am unable to say: neither bird, prior to my visit, appeared to be known to the inhabitants." —E. N.

24 [?] ——(?) Woodpecker. *Picus* ——(?). "Woodpecker."

A bird answering to the description of a Woodpecker, and so called by our informants, seems to be found occasionally; but neither of us had the good fortune to meet with one; and the accounts were so very vague, as to preclude our giving any further indication of it than the present.

[To be continued.]

XIV.—*Account of a Visit to a Nesting-place of the Frigate-bird* (Fregata aquila, L.). From a letter of George Cavendish Taylor, Esq.

On the 1st of January, 1858, we went off in a boat with four rowers to visit an island some four or five miles from Tigré

Island, in the bay of Fonseca, on the Pacific coast of Honduras. It is called Bird Island, and is not more than an acre in extent, and of an oblong shape. At one end the beach is sandy, and at low-water one can walk across to another island close adjoining. At the other end the shore is rocky, and it is much the same at the sides, the beach being strewn with large volcanic stones. The surface of the island is some 30 or 40 feet above the sea-level. It is covered with long grass, and there are also a few trees and low shrubs—mangroves (*Rhizophora mangle*, Linn.)—growing in places, especially about high-water mark. At a distance the most conspicuous object was a numerous flight of Frigate-birds soaring over the island. As we approached, large white patches, caused by the droppings of the birds, became visible. We landed on the flat sandy beach, and in a few minutes I had shot a pair of Tiger-Bitterns (*Tigrisoma tigrinum*), which allowed me to approach without any difficulty. Besides these and the Frigate-birds, we saw no birds on the island, except a few Pelicans, some large *Accipitres*, and a single Booby (*Sula fusca*), which had its nest on a low tree, in company with the Frigate-birds. The whole island was appropriated by the latter. Nearly every tree and bush, both high and low, was covered with birds and their nests. The latter were mostly composed of a few sticks laid crossways, hardly as much in quantity as in the nest of the Ring-dove (*Columba palumbus*). Each nest contained a single egg, about the size of a hen's-egg, and of a chalky whiteness *. We brought away nearly a hundred of them. Some were quite fresh, and others had been sat upon some days. Although the nests were upon low bushes, still they were placed just too high for one to reach the eggs without climbing. Many of the nests were on the mangrove bushes which were growing just above high-water mark, so that we could see into them when standing on the bank of the island, which was at a higher level. Some of the birds were sitting on their nests, and others were perched upon the branches. By firing into the mass I might have killed a dozen at a shot; but shooting would have been an absurdity, for I could have obtained any number with a stick. The difficulty was to get them off their nests. Shouting had little or no effect; and even the report of a gun would only rouse a few, who would frequently settle again on the bushes. I threw some stones among them, without producing much result, and even tried to poke them off their seats with my gun; but they merely snapped their beaks at me in retaliation. All this time there were thousands of other birds soaring in the air a little way over our heads.

---

* Specimens taken by Mr. Taylor, and exhibited at a meeting of the Zoological Society (June 8, 1858), measured $2\frac{3}{4}$ by $1\frac{3}{4}$ inches. See P. Z. S. 1858, p. 318.

I observed that the Frigate-birds were of three different plumages. As there were birds of all three sorts sitting together, and with their nests in the same bushes, I concluded that they were of one and the same species—males, females, and immature birds. Some have the head and neck white, the beak white, the feet and legs bluish white, the belly white, and the wing-coverts greyish brown. Others have the legs and feet black, and are black all over, with a greenish metallic tinge on the back. These have a bright scarlet pouch, which they inflate to the size of an ostrich's egg while on the wing. The boatmen informed me that these were the male birds. Others, probably immature birds, had the head black, the throat white, and the legs and feet pink. All had long, black, forked tails. I obtained a specimen of each, but did not preserve them, as I had much to do; and, besides, they are stinking birds to handle, as bad as, or worse than, the Turkey-Buzzard (*Cathartes*). The Pelicans have also a breeding-place in Fonseca Bay, but it is in an island at some distance from the one in possession of the Frigate-birds.

Baltimore, U.S.A.,
Jan. 1st, 1859.

XV.—*List of Birds received from Ibadan, in Western Africa.*

By John Henry Gurney, Esq., M.P.

The Rev. David Hinderer and Mrs. Hinderer, of Ibadan, in Western Africa, have kindly forwarded to me a small collection of birds from that locality; and I beg to send a list of them for insertion in 'The Ibis,' together with some brief notes which Mrs. Hinderer was so good as to attach to the specimens, and which include the native names of each species. The town of Ibadan is in latitude 7° 40′ North, and longitude 4° 10′ East, or thereabouts, and lies about fifty miles inland from the Bight of Benin.

1. POLYBOROIDES RADIATUS (Scop.). "*Asharo.* Eyes bright purple, light yellow rim."

2. BUCEROS ELATUS (Temm.). "*Agbigbo.* Eyes black; feeds upon fruit, especially a kind of plum; is so strong, it can fight and conquer any bird."

3. BUCEROS FASCIATUS (Shaw). "*Atioro.* Eyes coal-black; feeds on fruit."

4. ISPIDINA PICTA (Bodd.). "*Opere.* Feeds upon flies."

5. POGONIAS BIDENTATUS (Shaw). "*Akoko.* So called from its cry. Eyes purple."

6. CENTROPUS SENEGALENSIS (Linn.). "*Elulu.* Eyes red, with yellow ring."

7. ARDEA ATRICOLLIS (Wagl.). "*Ako.* Eyes deep purple; feeds on snakes and lizards."

8. ARDEA BUBULCUS (Savigny). "*Leke-leke.* Eyes black, with very light yellow rim."

9. THRESCIORNIS RELIGIOSA (Savigny). "*Yenja-yenja.* Eyes deep purple; feeds upon fish, frogs, and anything it can get out of the water."

10. RHYNCHÆA CAPENSIS (Linn.). "*Eyedo.* A bird of the brooks; feeds upon little fishes and anything it can find by the water's edge."

Catton Hall, Norfolk.

XVI.—*On the Ornithology of Northern Africa.*

By the Rev. H. B. TRISTRAM, F.L.S. (Part I.)

IT is impossible to gain a just view of the ornithology of any country without considering in the first place its physical and geological characters. This is peculiarly the case with respect to Northern Africa strictly so called, *i. e.* the Barbary States—the 'Mogreb' of the Arabs—extending from the Gulf of Cabes, south-east of Tunis, to the bold headland in which the western Atlas range abruptly terminates on the Atlantic coast of Morocco. If we cast our eyes on the map of Africa, we shall see no portion of the globe apparently so compact, so self-contained. A peninsula, attached only to Asia by a narrow isthmus, Africa exhibits no islands like those which encircle Europe, struggling, as it were, to be freed from the continent. No deep gulfs and bays indent her shores. Compact and solid, the geological convulsions which have dislocated Europe have met with an impenetrable barrier in the ridge of the Atlas, which has sternly repelled every encroachment. We might naturally expect then to find the Fauna and Flora of Africa throughout characteristic and homogeneous, or, at most, varied only by the effects of climate and latitude, like those of Asia and America.

But when we examine more closely the physical geography of Africa, we shall find that, so far from this being the case, the natural history of the Atlas bears scarcely any affinity to that of the rest of the continent, and that this distinctiveness may be at once traced to natural physical causes. To the naturalist, North Africa is but a European island, separated, it is true, from Europe by the Mediterranean, but far more effectually isolated from Central Africa by that sea of sand, the Sahara. The Atlantic isolates it on the west, while a comparatively narrow, but most impenetrable desert of ever-shifting sand cuts it off from Tripoli and Egypt, which on their part seem to bear rather on Asia than Africa. No link attaches Barbary to the rest of the continent, no river supplies an arterial communication, not the most insignificant streamlet forms either a bond of union or a frontier line; the long Atlas chain abruptly terminates in Tunis, and sends not one solitary spur towards Africa; it rather seems by one of its branches to claim kindred with Europe. So far the Arab geographers are accurate in coupling 'Mogreb' with Europe instead of Africa. They, too, have the tradition mentioned by Livy, Pliny, and Seneca, that Spain and Morocco were once united,—an idea which must so naturally suggest itself to any one who has sailed through the Straits of Gibraltar, that it is needless to imagine that it had any foundation in historic memory. If we might here hazard a conjecture, it would be that the same convulsions and upheavals*, which at the close of the tertiary epoch indented the southern coasts of Europe, at the same time drained the ocean, which up to that time had rolled over the plains of the Sahara, and submerged the low-lying lands which probably united the Canaries and Madeira to the main land. The natural history of these islands is so essentially European as to point to an identical centre of creation. We may then imagine that towards the close of the later geological epoch, Barbary was a vast peninsula linked to Europe by Gibraltar, and washed on the south by the ocean of the Sahara, on the north by the inland lake which is now the Mediterranean.

It is to be observed, also, that the geological character at once changes, when, leaving the southern slopes, we enter the Sahara. Upon the surface of the tertiary deposits and nummulitic limestone we come to masses of granite, quartz, and other igneous formations, with numerous rounded pebbles and large gravel, bearing all the marks of an ancient sea-bed, besides the extraordinary mountains of pure rock-salt, which in various places rise suddenly from the limestone. During my rambles in the Sahara the only *true* fossils I found were of a species of *Chama*, imbedded in the cliffs, though abundant fragments of tertiary shells lie scattered among the sands.

Such being the physical geography of North Africa, we need not be surprised at finding its Flora and Fauna closely approximating to those of Europe, *i. e.* if we take, as the limits of Barbary, the foot of the southern slopes of the Atlas. Towards the end of the last century Desfontaines carefully explored its Flora, and described it in his well-known work 'Flora Atlantica.' The additions made by Mr. Munby and others, subsequently, have raised the list of Desfontaines to about 2000 indigenous species. Among these I can scarcely find a single genus which is not represented in the Flora of Spain, Sardinia, or Sicily, with the exception of the *Cactus* and *Agave,* manifestly American introductions. The most characteristic plant, *Chamærops nana,* abounds in Sardinia. Turning southwards to the Flora of the Sahara, I have catalogued 335 genera and upwards of 600 species, one-third of which are unrepresented in Europe, but represented by identical or closely-allied species in Egypt or Arabia.

---

* I once found on the Barbary coast a raised tract composed of masses of tertiary shells, 250 feet above the present Mediterranean level.

But when we turn to the mammals, a singular contrast presents itself, and it seems scarcely possible to connect these with the European centre of creation.

I cannot help expressing my thorough agreement with the remark made by the able reviewer of Bree's "Birds of Europe," in the 1st No. of 'The Ibis,' with all due deference to our learned Editor's opinion in the foot-note:—"We believe the Algerian mammals and reptiles are entirely distinct from those of the opposite coast." I have before me my friend Capt. Loche's 'Catalogue des Mammifères de l'Algérie,' which I have verified by examination of the specimens in the Algerian Museum. He gives a list of 75 mammals, to which I am able to add four. Of these, 21 are common to Europe; but of these 21 a close scrutiny will enable us to eliminate several. *Pithecus innuus* can only be deemed a straggler in Europe; for this monkey is confined to Gibraltar, and must have reached that rock from the opposite shore, or perhaps have been introduced. *Canis aureus* (the Jackal), though certainly now European, has, historically, I believe, been introduced across the Dardanelles. *Mus decumanus* (the Norway Rat) is confessedly not indigenous. *Dama vulgaris* is given by Capt. Loche; but other authorities maintain that the Algerian *Dama* is specifically distinct.

Of seven bats given by Capt. Loche, six are supposed to be identical with European species. But I believe that I possess three other non-European species; and when the whole series has been examined by Mr. Tomes, and further researches made by the only living naturalist capable of giving a decided opinion, it seems probable that the Atlas will be found to possess its characteristic *Vespertiliones.* Still, when we remember the power of flight these creatures can exercise on an emergency, and that stragglers of various North American species have frequently reached the Bermudas—a distance of 800 miles,—it is not to be wondered at if European colonists of this class should have preceded even the French adventurers.

What mammals then do we find really common to the opposite shores of the Mediterranean? Only the following:—*Felis catus* (Wild Cat), *Putorius boccamela, Lutra vulgaris* (the Otter), *Sus scrofa* (Wild Boar, world-wide in its distribution), *Sorex araneus* and *S. fodiens, Mus rattus, M. sylvaticus, M. musculus, Hystrix cristata,* and *Lepus mediterraneus*—eleven in all. It is to be observed, that no mole mines, no badger skulks, no wolf roams in Barbary, while there are seventeen carnivorous animals, and among them the Lion and the Leopard, which roar within hearing of the coasts of the Mediterranean, and yet have no congeners in Europe. As far as I have been able to ascertain, the forms of reptilian life are as distinct from those of Europe and as closely united with the African types as the mammiferous races; but I am not aware that the collections made by le Capitaine Dastugue, by myself, and others, have yet been submitted to the scrutiny of herpetologists, and the specimens which have been hitherto reported on in Paris have been chiefly collected *only* on the coasts. How the singular contrast between the mammalian dissimilarity and the general zoological similarity is to be explained, remains to be unfolded by the coming 'Philosophic Naturalist,' foretold by Mr. Bree's Reviewer above alluded to. Unless the progenitors of the carnivores can have crossed the Great Desert from the south, which in its present state I should conceive scarcely possible, I dare offer no conjecture.

But when we come to the ornithology of North Africa, then it is that the zoological union with Europe is most complete. The first work with which I am acquainted on the Algerian birds is the brochure of M. Alfr. Malherbe, published at Metz in 1846. Of the 191 species in this catalogue, 186 are common to Europe; one (*Cuculus abyssinicus*) is incorrectly inserted, and four are distinct species—*Pica mauritanica,* described by M. Malherbe in 1843; *Parus ledouci,* Malh. 1842; *Parus cæruleanus,* Malh. 1842; and *Picus numidicus,* Malh. 1842. This latter has since, it is said, been found to inhabit Spain.

M. Malherbe published an appendix to his Paper in 1847, containing four more non-European species—*Aquila rapax, Aquila nævioïdes, Falco punicus,* and *Caprimulgus isabellinus.* With the exception of the diagnoses, M. Malherbe's work is a mere catalogue, with a few notes, which, as they are compiled by one who never visited the country, are very incorrect as to the localities and comparative rareness and abundance of species.

That our knowledge of Algerian birds has advanced since 1846, the catalogue of Capt. Loche, published last year, and containing 357 species, is a sufficient proof. Yet of this number (rivalling the portentous roll of the 'Zoologist' list of "birds observed in Britain," though guiltless of Asiatic Grakles and Australian Spine-tailed Swifts), there are but 42 non-European species, including the 8 previously described by Malherbe. Besides these, Capt. Loche gives a supplemental list of species said to be Algerian, but which he has not met with himself. Of these I succeeded, in 1856, in obtaining three, viz. *Sylvia philomela, Sylvia sarda,* and *Sylvia olivetorum.* The 1st No. of 'The Ibis' contains diagnoses of 9 species brought by me from the Sahara, supposed to be hitherto undescribed; and I may add also 2 species, first obtained by me in Algeria in 1856, but described by M. Brehm in Oct. 1858, in "Naumannia," from Abyssinian specimens, as *Dromolea leucopygia* and *Dromolea leucocephala.* Thus our latest ornithological knowledge gives us 371 Algerian species, of which 53 are not known to have occurred in Europe. But even this list, on a careful analysis, must be enormously reduced. For what are the natural limits of North Africa? Surely the northern fringe of the Great Desert, incorrectly termed by us the Sahara. French conquest and French alliances have, it is true, included a vast desert territory politically in Algeria, though a great portion of this is only nominally dependent, and knows no more of French jurisdiction than two hasty visits of flying columns of cavalry could impart. The Touariks profess to be allies of the Emperor, and the 'Moniteur' once announced that the tricolor is now respected up to the walls of Timbuctoo. No tricolor, however, has yet been adventurous enough to invoke any outward mark of respect in these regions, and the birds seem as little inclined for assimilation as the wingless roamers over these wastes.

If, then, we assume North Africa to terminate where the last traces of vegetation disappear in the desert, we shall find but 14 Algerian non-European species recorded. These are—

Aquila nævioïdes.
Buteo tachardus.
Falco punicus.
Hypotriorchis concolor.
Pica mauritanica.
Garrulus cervicalis.
Fringilla spodiogenia.
Ruticilla moussieri.
Chloropeta pallida.
Parus ultramarinus.
Parus ledouci.
Lanius algeriensis.
Gecinus vaillantii.
Picus numidicus.
Microcarbo algeriensis.

Of these, *Falco punicus* is said to have gained a claim to the European list, having been shot in Malta by Col. H. M. Drummond. *Picus numidicus* there seems fair authority for believing to occur not unfrequently in the cork forests of Andalusia. *Fringilla spodiogenia* can scarcely be considered as more than a local, but constant, variety of *Fr. cœlebs.* *Lanius algeriensis* is, if not identical, at least closely allied to *L. meridionalis.* *Gecinus vaillantii* differs very slightly from our common *Gecinus viridis*, and may be only a local variety. *Microcarbo algeriensis* is hardly to be distinguished from *Microcarbo pygmæus*; and *Chloropeta pallida*, a species recognized by Prince Bonaparte, with all due deference to so great an authority, seems to me to be separated for no solid reason from the *Sylvia elaica* of Temminck. Prince Bonaparte makes the difference to consist only in its smaller size, but I have obtained specimens fully equalling the recorded measurements of *S. elaica*; and I cannot help believing that a more careful examination will eliminate this species, as it has *Sylvia familiaris*, now admitted to be identical with *Sylvia galactotes.* *Hypotriorchis concolor* is given by Captain Loche as occurring in the province of Constantine, but no specimen exists in the Algerian collection. Captain Loche has never seen one himself; and as *Falco eleonoræ* is not uncommon there, it seems most probable that this bird, in its fine uniform black plumage, has done duty with some French collector for *F. concolor.*

There remain then but 7 species undoubtedly and peculiarly North African; and these, with the very interesting exceptions of *Aquila nævioïdes* and the exquisite little *Ruticilla moussieri*, all have closely allied European cousins, whose place they supply in the Algerian economy. Is it too much to affirm that there is not a district in Europe of equal extent which does not present at least as great a number of peculiar forms? It is fair to admit that some of the habitual denizens of Algeria obtain a place in the European catalogues on questionable authority, or rather, I should say, from the occurrence of some too restless wanderer far from his native haunts, as, e. g., *Elanus melanopterus*. Little wot these foolish stragglers of the destruction they bring upon their race by the transgression of Nature's limits! Once out of bounds, and caught on European soil, they are noted in the price catalogue of every 'marchand des oiseaux' throughout the Continent; and their skins and eggs are indispensable to the drawers and cabinets of German and French collectors. As in England the science of natural history is disgraced by pretenders and their abettors, who have the unmanly nerve to draw the trigger against the last Eagle of a district, to sneak for days in ambush against a Hoopoe, or desolate the last resting-place of some historic Peregrines, so the catalogues of Paris, of Copenhagen, and of Hamburg tell too plainly of the efforts made for the most sordid purposes to swell the list of European species*.

---

* I may remark, in passing, that the French dealers appear to consider Algeria as, ornithologically, a province of Southern Spain. I have been amused by the rich stores they can produce of birds and eggs from *Andalusia*, which, though very scarce there, are abundant in the more accessible Algeria. In one shop in Paris I saw some very fine eggs of *Gypaëtus*, which I was assured had been taken in the Pyrenees, but which had upon them the private mark of a certain Algerian collector with whom I was well acquainted. Skins of *Ixos obscurus*, &c., all labelled from the south of Spain, bore a most remarkable resemblance to the (to me) familiar preparations of this gentleman, whom I had assisted in packing a box for Paris.

In the summer of 1856 I was in the habit of employing the boat and local knowledge of a professional chasseur on an Algerian lake. This man used to send boxes of eggs to another Paris dealer. His collections were never named, for he knew only the provincial appellations of the birds. I

When from the denizens of the Tell, or Barbary Proper, we direct our attention to the inhabitants of the Desert and its oases, a very different result rewards our investigation. Here, out of a much more limited Fauna, we find no less than 38 species whose wings have never borne them across the Mediterranean. Unwonted and often uncouth forms meet us with scientific names to match (like *Rhamphocoris clotbey*), most

---

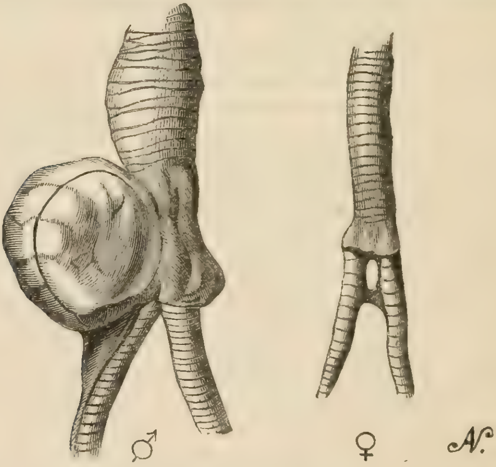
was particularly anxious to find the nest of *Anas rufina.* He told me he had frequently taken the eggs, and had sent as many as forty of 'le Grand Siffleur Huppé' to Paris, receiving three francs a piece. He showed me some he had, which bore a striking resemblance to those of *A. nyroca* (a very unmistakeable egg for a duck), which was abundant on the lake; while of *Anas rufina* we never saw but one pair. I assured him of his mistake; but he was positive, and showed me a letter desiring him to send more of this said 'Grand Siffleur Huppé!' At length one day, as I was with him in his boat, a duck rose from its nest; he fired, and brought down an *Anas rufina*; and I found one egg in the nest, of the lovely pale green characteristic of this bird. I exhibited it triumphantly. He turned away in disgust, exclaiming, "Eh bien, c'est une variété extraordinaire!" Soon afterwards I saw eggs of *Anas nyroca* in Paris marked as *rufina*; and within the last year I have been amused at finding an exactly similar egg doing duty for the whistling duck in three British collections; not, however, from Paris, but with inscriptions which told me that at one period of their existence—whether at that of their transmutation or not I cannot say—they had visited Copenhagen.

My last adventure with the chasseur was ludicrous enough. He had offered me eleven eggs of the Golden Eagle, which he said he got from the Arabs, for 100 francs. I wrote to say that if he would bring the eggs, he should have the money. In a few days he accordingly appeared at my house with a clean-looking sitting of eleven eggs of *Meleagris gallopavo*, var. *domestica.* I indignantly dismissed him for an impudent rogue, and in a few days received a summons to appear in court for breach of contract. My chasseur, his turkey eggs, and his *avocat* were there in due state. The *avocat* produced my letter desiring him to bring 'les œufs,' and he should have his money. The chasseur swore that these were the eggs alluded to, and moreover that they were those of 'l'Aigle Royal,' not of 'le Dindon.' I affirmed the contrary. But when doctors differ, who shall decide? And M. le Juge decided that, as a chasseur, who had been all his life among birds, was more likely to know an Eagle's egg than an amateur, though certainly they did look to him very like turkey's, I ought to believe the chasseur and take the eggs. On my declaration of an appeal, the prosecutor proposed to settle the affair out of court, which he did by fair promises and allowing 50 francs for boat hire. He has since transferred his genius to poultry-dealing in Kabylia.

of them clad with quaker-like simplicity in inconspicuous drab, with bills and tarsi often apparently distorted or exaggerated, but wonderfully adapted by their all-wise Creator to supply the means of sustenance in these arid regions. We find here the order *Struthiones*; the genera *Otogyps, Crateropus, Drymoica, Comatibis, Corospiza, Rhamphocoris,* unknown to Europe; and others, as *Erythrospiza, Dromolæa, Ammomanes, Pterocles,* rarely represented here, but universally distributed there, and under many specific varieties. From the difference of climate and physical geography, this was naturally to be anticipated. It is only mentioned to prove the premises with which we commenced, viz. that, ornithologically, North Africa is a European province, while the Sahara is as decidedly non-European, its affinities being with Nubia and Abyssinia.

XVII.—*Remarks on the Harlequin Duck* (Histrionicus torquatus, *Bp.*). By Alfred Newton, M.A., F.L.S.

The value of the characters afforded by the trachea in different members of the *Anatidæ* is so well known, that I make no apology for presenting the readers of this Journal with figures of that organ in a remarkably interesting species, the Harlequin Duck (*Anas histrionica*, L.; *Histrionicus torquatus*, Bp.). Of this



trachea I believe no representation has hitherto been given, though it has been described by Professor MacGillivray, first in the work of Mr. Audubon (Orn. Biogr. v. 617), from which the account is quoted by Mr. Yarrell (Brit. B. iii. 266), and afterwards in the Professor's own book (Hist. Brit. B. v. 170). As this description seems to be quite as detailed and accurate as any I could furnish, and, when taken in connexion with the accompanying engraving, to afford a sufficiently good idea of its form in this species, I need say no more on that head, beyond remarking that, as will be seen from the figure, the bony tympanum of the male is uninterrupted by any of those membranous openings found in all the other Diving Ducks—except the Eiders *—with which I am acquainted, and that in particular it bears no resemblance whatever to the same part in either the Golden-eye (*A. clangula,* L.) or the Long-tailed Duck (*A. glacialis,* L.), the typical representatives of the sections *Clangula* and *Harelda,* in one or the other of which the Harlequin Duck is usually placed by most of those ornithologists who subdivide the great and natural group of Diving Ducks, and near which two species I think all other writers agree in placing it. The specimens of the *trachea* now figured were prepared by me from fine freshly-killed examples of this beautiful species obtained last year by Mr. John Wolley and myself from a merchant at Reykjavik, the capital of Iceland, and, excepting one in the Museum at Haslar Hospital, no others, to my knowledge, exist in this country. In these examples, when fresh, the small lobe on each side of the base of the upper mandible, which seems to have escaped the notice of many, if not of most, ornithologists, though it has been duly remarked by some, was very apparent; and I am not aware that this external character exists in any other of the species with which the Harlequin Duck has been usually associated. Indeed, in many dried skins which I have examined, this peculiarity is very easily overlooked, as, unless care be taken to prevent its doing so, it usually shrinks into insignificance as the skin dries, whereas while the bird is fresh it is of a prominent size, although smaller in the female than in the male.

---

* In the Scoters, it will be recollected, there is nothing that can properly be called a tympanum.

I am inclined to believe that a good deal of misconception exists as to the geographical range of this species, which I think will be found to be much more limited than is usually supposed to be the case. To take two of the latest published authorities on the subject: Dr. Degland states (Orn. Europ. ii. 453) that it "habite les contrées arctiques des deux mondes;" and Mr. Cassin, in Professor Baird's most valuable work on North American Ornithology, gives as its *habitat* (Pac. R. R. Report, Birds, 799), "Northern sea-coasts of northern hemisphere." Now, I am pretty sure that in Europe, with the exception of Iceland and Western Asia, it only occurs as an accidental straggler. I believe I am authorized to say that, as far as Mr. Wolley's experience goes, it is not known as a bird of Lapland, including in the term the north of Norway and Finmark; and I can hardly understand its being, as M. Temminck states (Man. d'Orn. ii. 879), "abondant dans les contrées orientales de l'Europe," without its occasionally showing itself in the district which has been so assiduously worked by my friend; for I presume there can be no doubt that M. Temminck did not intend to refer to any but the *northern* part of Eastern Europe. In more southern Scandinavia it is certainly rare*, as appears by Prof. Nilsson's statement (Skandin. Faun. ii. 441). I cannot find that it is known in European Russia, but it seems to occur accidentally on the Caspian and Sea of Aral. It is also said to be met with—like so many other, to us rare, birds—about Lake Baikal; and if the report be true, I think this must be taken, according to our present knowledge, as its normal western limit in Asia; for in the course of Dr. Middendorff's travels, it appears (Sib. Reise, Zool. Bd. ii. Th. 2. p. 237) to have been found only in the extreme east of Siberia, the localities for it mentioned by him being the S'tanowój Mountains, the southern coast of the Sea of Ochotsk, and the interior of Mandchouria. This enterprising traveller obtained a nestling bird on the 23rd of June at Uds'kój-Os'tróg, of which a characteristic representation is given in his work (pl. xxii. fig. 3). It probably also occurs in Japan, since, according to Dr. Schlegel (Faun. Jap., Aves, 141), it is "représenté de grandeur naturelle dans plusieurs recueils japonnais."

---

* The late Mr. Thompson (B. Ireland, iii. 152) mentions, on the authority of Captain May, the occurrence of four adult males in the month of July, on a lake close to the entrance of the Salten Fjord; but as no specimen was obtained, there *might* have been a mistake as to the species.

I take this opportunity of remarking, that in two or three asserted instances of the occurrence of *Anas histrionica* in Great Britain, other species seem to have been mistaken for it. In 'The Zoologist' for 1847 (p. 1697) is a note by Dr. Battersby of Torquay, that " a small flock of Harlequin Ducks have frequented our bay, of which I have been fortunate enough to procure two specimens, a male and a female." Now, an example obtained at that time, out of the same flock, was some years since shown me by Mr. Burt, the energetic curator of the Torquay Museum, and there can be no question of its being a young Long-tailed Duck. Again, in 'The Zoologist' for 1852 (p. 3331), my brother reported that a Harlequin Duck had been killed in Banffshire. This he did on the authority of the late Mr. Yarrell, whose letter to Lord March, by whom the bird was shot and kindly given to my brother, after having been submitted to the inspection of that distinguished naturalist, is now before me. In this letter Mr. Yarrell says positively that it " is a young female of the '*Harlequin Duck*' in its first winter plumage;" but the bird is still in our possession, and, I regret to say, is not the rarity I could wish, there being no doubt that it is only a very young example of the Long-tailed Duck. Both this and the Torbay specimens are referred to by Mr. Yarrell in the last edition of his work (B. B. 3rd ed. vol. iii. p. 368). Furthermore, 'The Naturalist' for 1857 (p. 124) contains an extract from 'The Devonport Journal,' which was also quoted in 'The Times' of April 18th, 1857, asserting that a specimen of the Harlequin Duck had been recently killed in Warwickshire; but Mr. H. Buckley, in the same periodical for 1858 (p. 124), states that he made "particular inquiries" respecting this example, and was "informed on undoubted authority that the bird which was mistaken for that rare Duck was, in reality, a female Scaup Duck (*Fuligula marila*)." In 'The Zoologist' for 1850 (p. 2949) is a detailed account of a pair of Ducks said to be the Harlequin, which built a nest and hatched a brood in a semi-domesticated state at Melbourne in Derbyshire; and this statement has been copied by Mr. Yarrell in his last edition above mentioned. Now, at the time I first read it, I had a suspicion that there was some mistake here, which further inquiries have much tended to strengthen; but as the author of the paper (Mr. J. J. Briggs) has kindly undertaken to pursue the subject further, I need say no more about it, beyond expressing my full conviction that the birds in question will be found to have been the North-American Wood, Carolina, or Summer Duck (*Aix sponsa*, Boie), which, as is well known, will breed freely in this country, and whose beautifully varied plumage causes it to be often called by dealers by the name rightfully belonging to that species which is the subject of my somewhat lengthy remarks.

XVIII.—*Notes on the Birds of Western Spitzbergen, as observed in* 1855. By EDWARD EVANS and WILSON STURGE.

PARTLY inspired by a love of Natural History, but more by a desire for adventure, we were induced to visit Spitzbergen in the summer of 1855, before a trip to that island was so common as it seems likely now to become; and though we were somewhat disappointed in not finding it so rich in ornithology as we had expected, a short notice of the species we observed there may not be unacceptable to the readers of 'The Ibis,' as we believe that hitherto the only published account of the birds of this, the most northern known land of the Old World, is that contained in the Zoological Appendix to Parry's Fourth Voyage, by James Clarke Ross*.

Our vessel, the 'Anna,' was a fishing-smack of 30 tons register, a fast boat; and had it not been for calms, adverse gales, and fields of ice, we might, with a fair breeze, have easily made the run from Hammerfest (in the north of Norway), our port of departure, in three or four days. But at Bear Island the ice forced us to make a circuit of upwards of sixty miles; thus we were retracing our course almost the only time that we had a south-east wind, which would have been the most favourable for speeding our voyage; and in the last three days we had to make another circuit of nearly two hundred miles. It was therefore with no small satisfaction, that, on the 20th of Sixth month (June), about nine in the morning, being the ninth day of our voyage, the land we had been so anxiously looking out for was seen lying about sixty miles to the eastward. The coast appeared very wild and inhospitable; the rugged mountains were capped with dense masses of cloud; the valleys and level ground were one sheet of snow, and the shore was guarded by an extensive field of ice, which again was surrounded by a belt of flat barren islands and jagged ice-covered rocks, known as Syd Cap Œerne, or the South Cape Islands. Almost precisely at the midnight following we first set foot on Spitzbergen, on the low shingly beach of one of these islets, where the snow had thawed for the space of a few acres. It was, of course, broad daylight, but not a very cheerful scene; for a wintry wind drove the snow into our faces, while the waves splashed against the shore or thundered into the deep-blue hollows of the ice.

---

* Narrative of an Attempt to reach the North Pole in Boats fitted for the purpose, and attached to His Majesty's Ship 'Hecla,' in the Year 1827, under the Command of Captain William Edward Parry, R.N., F.R.S. London, 1828.

We found on this spot Brent Geese (*Bernicla brenta*, Steph.), Eider Ducks (*Somateria mollissima*, Leach), and Glaucous Gulls (*Larus glaucus*, Brünn.), in immense numbers, and the ground was covered with their nests. A few Arctic Terns (*Sterna macroura*, Naum.) were flying overhead, but did not appear to be as yet breeding; at least, common as we afterwards found the bird to be, we never obtained any eggs of it. The nests of the Eider Ducks were hollows scooped in the pebbly ground, very scantily lined with down mixed with sea-weed, forming in this respect a striking contrast to those of the Brent Goose, whose three or four eggs were buried in a perfect mass of down and feathers, built on the beach. The large untidy nests of the Glaucous Gull, formed of sea-weed, and each containing usually three eggs, were to be found also on the shore, or more often on the low rocks, and in one or two instances even built on the masses of ice. These Gulls tyrannize much over the weaker birds in their vicinity; so dense too is their plumage, that shot will hardly penetrate their feathers; and those specimens we procured were mostly killed with the rifle. Their eggs seem hardly distinguishable from those of the Great Black-backed Gull (*Larus marinus*, L.), which bird, however, has never, we believe, been found in Spitzbergen, though abundant enough even in the north of Norway. The specimen so faithfully represented by W. C. Hewitson in the last edition of his 'Eggs of British Birds' (pl. 141. fig. 2), was obtained by us on this occasion. After remaining a short time on this island, we rowed to a similar, but much larger one, not far off, where there at first seemed a probability of meeting with a White Bear (*Ursus maritimus*, L.); but the ice still connecting it with the main land, our men pronounced it useless to look for one there,—the only chance of finding them being, that the ice, on breaking up, often leaves them isolated, when they become easy victims. The tracks of Arctic Foxes (*Canis lagopus*, L.) were very numerous; and one, a Blue one, was seen at a great distance. On this island we did not find a single nest or egg, the instinct of the birds teaching them that its being still united to the main land would render them liable to the depredations of Bears and Foxes.

Returning to our vessel, we proceeded on our voyage northward, but were prevented by ice from entering either Bell Sound or Horn Sound, and by fog from having more than an occasional glimpse of the land. Nearly the only birds which showed themselves were Fulmars (*Procellaria glacialis*, L.). A Seal, which we killed and skinned, on being thrown overboard attracted a large flock of these birds, who were at first very timid, only skimming over the carcase, and settling on the water at some distance from it to reconnoitre; but at last one courageously ventured to alight on it, and he would have made a good meal had not his feast been soon disturbed by others following his example. No end of battles then ensued; and as we left them far in our wake, they had assembled in a vast crowd. Near Horn Sound we met with immense numbers of Brünnich's Guillemots (*Uria brünnichii*) and Little Auks (*Arctica alle*, Gray), which flew about in large flocks, settling close round the vessel, playing and diving in all directions, seeming quite regardless of our presence, and keeping up a shrill chattering. Fulmars, too, were very abundant, skimming swiftly over the water like a

Kestrel (*Tinnunculus alaudarius,* Gray), and as noiselessly as an Owl, coming sometimes within arm's-length. Black Guillemots (*Uria grylle,* Lath.) were also numerous.

On the 24th (after having been reminded by our old cook, in broken English, of its being Midsummer-day,—a fact we might, from the state of the weather, have well overlooked) we reached the entrance of Ice Sound, a very extensive fjord stretching away inland as far as the eye could reach. The mist clearing off displayed some fine mountains on which the sun shone warmly, and we had a bright blue sky overhead, the first we had experienced since we sighted Spitzbergen. But our fine weather was of short duration; in the evening it clouded over, snow fell for about an hour, and the wind freshened to a gale, which drove us some thirteen or fourteen miles up the fjord, where we found the ice yet unbroken. The following morning we entered a little inlet on the north side of the Sound called Safe Haven, and cast anchor under the shelter of a line of ice-cliffs which rose from the water's edge to a great height, and terminated in beautiful peaks. This magnificent glacier was backed by a stupendous pointed and almost overhanging mountain, the Alken Fels, with one pinnacle above another towering into the clouds, and presenting the most varied and picturesque outline during the few short intervals when its lofty summit was free from the almost incessant mist of this inhospitable region. One of the peaks, which rose from the shore to the height of about 900 feet, and stood out from the rest like an immense horn, was literally alive with swarms of Fulmars, Brünnich's Guillemots, Black Guillemots, and Kittiwakes (*Rissa tridactyla,* Macgill.), which had their nests in its inaccessible fastnesses, secure from the depredations of man or beast; and their cries, occasionally overpowered by the roar of an avalanche, alone disturbed the silence of this Arctic bay.

During the time we lay here we made many excursions along the shores of the fjord; but the depth of the now melting snow prevented us from going any distance inland. On one occasion, after ascending about two-thirds of a high mountain, we shot a few birds, including a brace of Ptarmigan. We afterwards found these birds very abundant and exceedingly tame; but most unfortunately, as it turned out, only preserved the skin of one (a female) specimen. This has since been submitted to John Gould, and that celebrated ornithologist, being convinced of its specific distinctness from any other known species of the genus, has described it in the 'Proceedings of the Zoological Society of London' for 1858 (p. 354) under the name of *Lagopus hemileucurus.* It is therefore unnecessary for us to give a detailed account of this new European bird; we need only say that it can be at once distinguished from the Common Ptarmigan (*L. mutus,* Leach) of Great Britain and Scandinavia by its much larger size, which fully equals that of the Willow Grouse (*L. albus,* Bp.), and from this again by its tail, the basal half of which is white. The general plumage of the female in summer much resembles that of the female Common Ptarmigan at the same time. All the males we saw were still in the winter dress, though their white feathers had become very dirty; but the females had changed. In the same neighbourhood one of us found a nest of this bird—if nest it could be called, being formed only of a few long stems of dry grass bent down in a trench-like hollow in the barren fjeld (or high tableland), where the snow had been thawed, or perhaps been blown away, which latter might have been the case, so bleak and exposed was the situation. There were two eggs, which resemble those of others of the genus. One of them measures 1·6 inch in length by 1·22 inch in transverse diameter. We trust that any future visitors to Spitzbergen will not fail to bring back a large series of these birds, and especially to observe whether their voice or habits differ in any respect from those of the common species, and whether, too, this latter may not be found there as well.

Besides the birds we have before mentioned as occurring here, we saw some Arctic Terns, and a few Snow Buntings (*Plectrophanes nivalis,* Mey.). Observing a great many Little Auks flying in and out of the cliffs, we took our wire-rope, and one of us was let down the precipice; but both they and the Black Guillemots built in such deep and narrow crevices, that it was only after much hard labour in picking and breaking the rock with a hammer that the hand could be inserted. In this way three eggs of the Little Auk were obtained. Some of the Black Guillemots were breeding in rocks a mile or two inland; but we only procured one egg of this species, which we obtained from a bird we shot. The Brünnich's Guillemots were in immense profusion, constantly wheeling about in large flocks, day and night. The Snow Buntings were not plentiful, but we frequently heard their cheerful note, as they flew from one rock to another; their plumage was as yet only partially changed: their nests seemed very difficult to find; we only got one, which had five eggs.

The Purple Sandpiper (*Tringa maritima*, Brünn.) was very abundant in Coal Bay (on the south side of Ice Sound, so named on account of a small quantity of poor coal being found there), and we found four of their nests on the high fjeld. Beautiful little nests they were, deep in the ground, and lined with stalks of grass and leaves of the Dwarf Birch (*Betula nana*, L.), containing mostly four eggs of an olive-green, handsomely mottled with purplish brown, chiefly at the larger end. We watched this elegant little bird—the only one of the *Grallatores* we saw—with much interest, as it waded into some pool of snow-water or ran along the shingle, every now and then raising its wings over its back and exhibiting the delicate tint of the under-side, at the same time uttering its loud shrill whistle.

Of the beautiful snow-white Ivory Gull (*Pagophila eburnea*, Kaup) we saw only six or seven individuals; and though both the examples we killed had their bellies bare of feathers as in sitting birds, all our endeavours to find where they were breeding failed. Our crew informed us that no one had ever found their eggs or knew where they made their nests; they also asserted that the "Ice Gull" was never seen except upon ice, and in only one instance we found this statement to be incorrect.

In this fjord a large species of Goose was very common, and we found them breeding mostly on low rocks near the coast; but some seemed to have their nests in the high cliffs a mile or two from the sea. We obtained some specimens both of birds and eggs, but unfortunately neglected to preserve the skins of the former; we cannot, therefore, be positive as to which species they were; but judging from our recollection, they had flesh-coloured legs and light-grey shoulders; we have not, therefore, much doubt that they were the Grey-lag Goose (*Anser ferus*, Steph.). The identification of this bird is a point to which, we trust, future voyagers will pay attention; it is probably the only species observed by us which is not included in J. C. Ross's list, before mentioned.

Richardson's Skua (*Stercorarius parasiticus*, Gray) we saw tormenting, as is the manner everywhere of this feathered pirate, almost every flock of Kittiwakes, Gulls, or Terns; but we found neither nests nor eggs of it. We observed one individual of the uniform bluish-black variety.

Puffins were by no means abundant; but all we saw, we feel sure, were of the Northern species (*Fratercula glacialis*), and not the common one (*F. arctica*), which has been stated to occur in Spitzbergen. We are unable, too, to see any distinguishing points between the Black Guillemots we procured there and those from more southern localities, though the former have been described as different by Lichtenstein, under the name of *Uria mandti*.

In the evening of the 1st of Seventh month (July) we weighed anchor to return southwards, but we were not clear of the Sound till the following night. The wind, however, compelled us to run to the northward; and, after being obliged again to return to our old position, it was not until the 5th that we made a fair start from Ice Sound. Even then the alternate gales and calms, so characteristic of the Arctic Ocean, impeded our voyage. The midnight of the 7th and 8th was a beautiful one; the wind had died away, and we sat on the deck enjoying the warm glow of the sun, as it shone fully out over the sea, a thick white haze stretching along the coast, above which the rugged mountains towered majestically against the clear blue sky. A company of Fulmars here and there, floating so sound asleep on the sparkling waters as almost to be fouled by the vessel as she slowly drifted on, or lazily picking about for their supper, —a few Guillemots now and then whizzing by,—the Little Auks skimming hither and thither in all directions,—a solitary Puffin searching for his food, and an Arctic Tern gracefully poising himself preparatory to a plunge,—presented a picture long to be remembered by us. A fine breeze sprung up soon after and carried us rapidly down the coast, and in the afternoon we began to leave Syd Cap behind us. The weather still continued beautiful; and it was not until about eleven o'clock on the night of the 8th that this wild and little-known land finally disappeared in the soft distance. The next morning we sighted Bear Island, about which we found the Fulmars again plentiful; and on the afternoon of the 11th made Ingœ, off the coast of Norway, about forty miles north of Hammerfest, where, after a tiresome delay, when almost within sight of the island whereon it stands. our vessel, the 'Anna,' came to anchor on the evening of the 13th.

Of the sixteen species of birds observed by us in Spitzbergen, there can be little doubt that, as we before said, the large Goose, which we believe to have been the Grey-lag, was the only one not noticed by Parry's expedition; for doubtless the Ptarmigan was by the members of it, as at first by us, thought to be only the common species. Twenty-one species, however, are included in J. C. Ross's list; and the six of them which did not occur to us are—Ringed Plover (*Charadrius hiaticula*), a single specimen only in Hecla Cove; Fork-tailed Gull (*Larus sabini*), seen only in Waygatz Strait, and no specimen obtained; Cuneate-tailed Gull (*Larus rossii*), seen in Waygatz Strait, and on the ice as far north as the expedition went (lat. 82° 45′), but no specimen obtained; Pomarine Skua (*Lestris pomarinus*), one only seen in lat. 82°; Red-throated Diver (*Colymbus glacialis*), no locality mentioned; and Razor-bill Auk (*Alca torda*). The last species may possibly have escaped our observation, but the Ringed Plover and Pomarine Skua must be regarded only as accidental stragglers; the two Gulls appear to be confined in summer to more northern latitudes than we reached, and the Red-throated Diver is probably but scantily dispersed in the interior, which we were unable to visit. We saw no birds of prey during the three weeks of our stay in Spitzbergen; nor could we hear from our crew, who were well acquainted with the coast—our pilot alone having made the voyage *nineteen* times—that any have ever been found there. We have no reason to believe that there is any truth in the statement, that the Great Auk (*Alca impennis*, L.) has ever occurred so far to the north; but we have since learned that the Grey Phalarope (*Phalaropus fulicarius*, Bp.) has been obtained; and it is probable that the King Duck (*Somateria spectabilis*, Leach), the Long-tailed Duck (*Harelda glacialis*, Leach), the Great Northern Diver (*Colymbus glacialis*, L.), and, in small numbers, the Common Guillemot (*Uria troile*, Lath.) may sometimes be found in Spitzbergen. With these additions, the list of the birds we saw most likely comprises all the feathered denizens of this solitary land.

XIX.—*Five Months' Birds'-nesting in the Eastern Atlas.* By Osbert Salvin, Corr. Memb. Zool. Soc. (Part I.)

(Plate VI.)

As Mr. Tristram has undertaken to furnish a complete account of the birds of Algeria, in which he will enter at length into a general description of the physical geography of that country, as exercising an influence on its ornithology, I merely in this article propose, as supplementary to Mr. Tristram's more systematic details, to give a short account of those birds which actually came under my own observation during the time I accompanied that gentleman and Mr. W. H. Simpson in their rambles through the Regency of Tunis and Eastern Algeria. The five months referred to above comprised part of February, March, April, May, June, and part of July in the year 1857; and though the first five or six weeks were not actually devoted to birds'-nesting, yet the time was spent in making inquiries about breeding-localities, and preparations for our journey; so that the whole period may be said to bear reference to the one object of the expedition.

The city of Tunis was our head-quarters while in the Regency, from which we made excursions to various parts, to Carthage and Oudena in the immediate vicinity, to Sousa and El Djem in the south, and to Bizerta in the north. None of these excursions were productive of much, ornithologically speaking. Those birds that were observed will be mentioned in the subjoined list. A month was spent in this way, after which we finally started for Kef, the principal western frontier-town in the Tunisian territory, intending to cross by that road into the province of Constantine. Though the journey between Tunis and Kef can be performed without much difficulty in three days, we, preferring easy stages to more rapid travelling, passed six on the road. Our halting-places each successive night were Medjez el Bab, Testour, Teboursouk, Dugga and Bordj Messaoud. The afternoon of the sixth day brought us to Kef. Here, thanks to our letters from Tunis, we were most hospitably entertained by the governor, till our horses, tent-equipage, &c. had been forwarded to meet us from Souk Harras, to which place Mr. Tristram had sent them on leaving the Desert to proceed to Tunis. Leaving Kef, and passing one night with the lawless frontier-tribe of Waregra, we reached Souk Harras, the most eastern military station in the French occupation. After spending a few days in reconnoitring, we pitched our tents on the 4th of April at the foot of the magnificent rocks of Djebel Dekma, our camp comprising, besides ourselves, three servants, three tents, four horses, with cooking-utensils and all the requisites for a nesting-campaign in the mountains. From Djebel Dekma we passed on to Khifan M'sakta, and from thence to Kef Laks, at which latter place we remained till the end of the month of April. The rocks and lofty precipices about Souk Harras, of which the above-mentioned form some of the principal, are the homes of the Lämmergeyer, Griffon and Egyptian Vultures, of the Golden, Tawny, and Short-toed Eagles, of the Barbary Falcon, the Common and Black Kites. The eye of any lover of ornithology would be delighted and astonished at the vast numbers of these magnificent birds of prey which all day long sail over his head, their numbers increasing in the vicinity of the rocks that hold their eyries. Many a time, when in that district I counted twenty and thirty, and on one occasion fifty-five Griffon Vultures on the wing at once, wheeling in circles and gradually extending their gyrations higher and higher till the uppermost birds were lost to sight or appeared as mere specks in the sky. Aïn Beïda, another military station which stands south-east of Constantine, in one of those elevated plains into which the Algerian Atlas expands itself, and which with their numberless salt lakes form so marked a characteristic of the range, was our next resting-place, from which we gradually felt, as it were, our way westward to Djendeli. In this neighbourhood we passed the remainder of the month of May, our final camp, in June, being situated on the borders of a small marsh which lies to the westward of the high road between Constantine and Batna. On quitting this spot, we proceeded to Constantine, and thence to Philippeville, after having parted with our horses, tents, and every disposable thing. At Philippeville we took the coasting steamer to Algiers, and bid a final adieu to North Africa on the 11th of July.

The following observations are taken from notes made with reference to the specimens shot and the eggs collected during the expedition, and are given, with a few exceptions, nearly as I have them written.

1. GYPAËTUS BARBATUS. (The Lämmergeyer.)

The first opportunity I had of observing this finest of birds was in the neighbourhood of Souk Harras in the first week in April. In a ramble in search of a spot for our encampment, we discovered an eyrie in one of the stupendous cliffs that characterize that district. It was quite inaccessible; and we had to bear our disappointment, as well as a good wetting, and return to the hotel (if the house where we put up may be designated by such a title) after an almost fruitless day. We were not then aware that the eggs of this species had long been hatched. On encamping at Djebel Dekma on the 4th of April, more frequent opportunities were afforded us of becoming acquainted with this bird. This mass of precipitous rocks is one of the most interesting and curious in the country. The strata form an angle of about 20° with the vertical, and, dipping towards the north, present a comparatively flat face with bushes and shrubs growing out of the interstices. The southern cliff is more broken and the strata much more horizontal. Towards the east these two parallel precipices dwindle to nothing, while westward they are abruptly terminated by another broken precipice which cuts the first two at right angles. In the centre of this group, and at its highest point, the whole mass is parted, leaving a rugged gorge running north and south, having towering rocks on each side. The formation seemed to be almost entirely composed of nummulite. In this range a pair of Lämmergeyer had their eyrie in the western side of the gorge just above a cave that pierces the strata. To this nest one of our Arab servants, Mohamed, climbed and brought down a half-fledged young one, which, after living some few days, came to an untimely end *.

The range at Khifan M'sakta, our next camp, stretches south-west and north-east, and, though hardly on so grand a scale as Djebel Dekma, is somewhat similar in its peculiar isolation, the same feature of vertical strata presenting itself. A pair of Lämmergeyer also occupied these rocks, their nest being in a hole on the north-west side. At Kef Laks, in the precipices called by the Arabs "Gala el Hamara," was another eyrie. None of the stories of the Lämmergeyer defending its young against one so hardy as to assail its nest were ever realized during our stay in their localities ; and though their eyries were repeatedly scaled and their young taken, the old birds not only never offered an attack, but in all cases either kept at a respectful distance, or never showed themselves at all. Immature birds of this species seldom occur in the breeding-haunts of the old ones : I only saw one during my whole stay. This remark probably applies to all the birds of prey ; and its truth is especially illustrated in the case of the Egyptian Vulture (*Neophron percnopterus*), immature birds of which I hardly ever saw. It would appear that this bird, like the *Gyps fulvus,* seldom, if ever, lays more than one egg : no instance of more than one young ever occurred in the nests visited. The food of the Lämmergeyer consists principally of the Land-tortoises (*Testudo mauritanica*), which abound throughout the country. These it carries to some height in the air, and lets fall on a stone to break the shell. It is an early breeder. The eggs must be laid in January, or the beginning of February at latest, as in the early part of April the young, in every case that came under our observation, had been hatched at least a month. I cannot concur in the supposition, suggested by the reviewer of Mr. Bree's "Birds of Europe," in the last Number of 'The Ibis,' "that the rich tawny hue of the under surface in some individuals of the Lämmergeyer is probably owing to a stain, the effect of bathing in muddy water, or of rolling in the sand with wet plumage." That such a cause should produce such an effect is not very obvious; and even if it were so, one can hardly, by such a hypothesis, account for the colours being distributed *only* on the under surface and lighter portions of the plumage; one would expect that the rolling process would extend some of its influence to the darker portions also. All the mature birds I saw wore a deep shade of this rich colouring. The young of this species, on first leaving the egg, is covered with down of a sooty-brown colour. A blood-red band which encircles the eye shows conspicuously when the bird is alarmed. The iris itself is in the first instance dark.

---

* This bird is now in the Norwich Museum.

The Arabic name applied to the Lämmergeyer in Eastern Algeria is "*Boulachiah.*"

2. GYPS FULVUS. (Griffon Vulture.)

I have, since my return, felt rather surprised that we never met with the Griffon Vulture in the Regency of Tunis: the rocks about Kef, from which the town takes its name, would appear admirably adapted for the nests of this bird. But none were seen; nor was it till we reached Souk Harras that they first showed themselves, though I have since suspected that the greater part of a large number of birds of prey, observed soaring at a considerable distance near Sidi Yousef, on the Tunisian frontier, were of this species. At Djebel Dekma were several pairs, as also at Khifan M'sakta; but Kef Laks and its neighbourhood seem to be their head-quarters. The term Kef Laks is strictly applied to a cliff which faces the east, and is a singularly bold and marked feature in the country. This eastern cliff forms one side of an elevated platform, the other sides being also precipitous rocks of no mean height. The northern of these is the most extensive; and it was there that the greater part of the Griffon Vultures built their nests. These rocks are called "*Gala el Hamara*" and "*Kef Gh'tar*" by the Arabs. The former seemed a favourite locality; and every available ledge was occupied. Facing this rock is a point which stands boldly out from the main cliff, to the extremity of which I used often to climb to watch the proceedings opposite. One of these ledges is accessible to a good climber; and Mohamed, our servant, who possessed hands, feet, and head which I have never seen surpassed for such dangerous exploits, performed the feat. A much-damaged egg, from which the young one had emerged, was the result; all the other nests contained young. It is a fine sight to watch the ease with which the Griffon sails through the air: the apparently effortless extension of the wings seems amply sufficient to sustain its huge body; no flapping motion is necessary to enable it to mount to a great height. It is only on leaving a rock that a few strokes are requisite to attain the necessary impulse, after which, with primaries bent upward by the force of the air, it performs its stately evolutions by soaring only. In alighting, the bird drops its legs some distance from the rock, and, sailing to within a few yards, it checks its velocity by two or three heavy strokes of the wing.

It has always been a mystery to me where so many Raptorial birds procure sufficient food. But few bleached skeletons are to be seen; and on no occasion did I see a bird feeding. The old birds, though doubtless themselves capable of sustaining hunger for a long period, must traverse many miles of country to procure the more regular supply requisite for their young. In one instance only did we find an egg and a young one in the same nest; in all other cases, one egg or one young one was the invariable number. The eggs appear to be laid in the month of February, as most of the nests contained young in the beginning of April. During the time of incubation, one of the parent birds sits constantly, and if frightened off, returns immediately. The nest is composed almost entirely of sticks, which are used in greater or less abundance, as the situation requires. The eggs obtained from wild birds generally show indications of natural colouring, in addition to the blood and dirt with which they are usually stained. This colouring is dispersed in faint spots of a reddish hue, sometimes all over the egg, but generally at the larger or smaller end. Of the four eggs in my collections, three exhibit traces of this marking. The eggs usually placed in collections are laid by birds kept in confinement; and this colouring is not observable. The young of the Griffon Vulture, on emerging from the egg, is covered with white down; the sides are dark. This bird is known among the Arabs as the "*Nisser.*"

3. NEOPHRON PERCNOPTERUS. (Egyptian Vulture.)

Though at first sight this bird would appear to be hardly so numerous as the preceding species, yet its distribution is so much more extensive, that I am inclined to consider it as more abundant. It is to be seen usually in pairs; and wherever a cliff exists in the mountains that surround the table-lands of the Eastern Atlas, sure enough it will be occupied by a pair. It was about the 20th of March, when, riding from Tunis to Bizerta, I first saw this species, after which this bird and the Black Kite (*Milvus ater*) were our constant companions throughout our stay. Generally speaking, the nests of *N. percnopterus* are not so inaccessible as those of *Gyps fulvus*. One nest which I visited near Kef Laks, and from which an Arab had taken the egg and broken it, I could reach with my hand from a perfectly accessible ledge. This nest was in a crevice of the rock, and was composed entirely of small sticks.

The Arabs used to take the eggs of this bird for us whenever and wherever they found them, so that I am unable to speak with certainty of the average number laid by one bird; but I think that two is the usual complement. In some instances the bird would lay again in the nest from which her first egg had been abstracted. One nest at Khifan M'sakta contained three eggs. The Egyptain Vulture begins to lay about the 10th or 12th of April. I quite concur in Mr. E. C. Taylor's remarks (Ibis, No. 1, p. 42) respecting the irides and tarsi of the adult of this species; they agree with my own observations. The Arabs are well acquainted with this bird, and call it *Rachma*, the adult being distinguished as "*Rachma batha,*" or White Rachma.

4. AQUILA CHRYSAËTUS. (Golden Eagle.)

The title of the Golden Eagle to be considered as the King of Birds is fully confirmed in the Atlas. Whatever rock a pair may choose for their eyrie, there they reign alone in dignified solitude, nor do they allow a single Vulture, Kite, or indeed any other species of rapacious bird, to occupy with their nest a single spot in the same rock, however eligible for the purpose; nor are these other species ever to be seen in the haunts of their exclusive majesties. The whole southern precipice at Djebel Dekma was thus tenanted by a single pair of this Eagle, as also several other rocks that came under our notice. The eggs are laid in March, and are for the most part two in number, though, in some cases, no more than one occurred. The eggs taken in this district are many of them richly marked; but the spots appear to be more isolated than is observable in many Scotch specimens. Instances of the Golden Eagle building in trees were by no means of unfrequent occurrence.

The Arabic name of this bird is "*Hogarb kakala*," or "Black Eagle."

5. AQUILA NÆVIA. (Spotted Eagle.)

Owing to the great similarity that subsists between this bird and *A. nævioïdes*, I refrain from quoting doubtful instances of the occurrence of either. It was at Djebel Dekma only, that a pair were certainly recognized. These we used frequently to see flying round and about the northern cliff. I do not think that this is a species by any means numerous in the Eastern Atlas. We had a nestling Eagle for some time in our camp, which we used to suppose to be the young of this species; but I do not feel at all sure that such was the case. Unfortunately it was killed by an accident.

The Arabs apply the name of "*Hogarb*" to this and the following species.

6. AQUILA NÆVIOÏDES. (Tawny Eagle.)

I several times had opportunities of observing a pair of these birds about a cliff which faces the south in the vicinity of Kef Laks. About the fourth week in April I discovered the nest, to which I sent Mohamed, but without result; the eggs had not been deposited. At Djendeli, in the Salt Lake district, I obtained a specimen. This bird, the skin of which I have still, seemed to have missed its moult, as the plumage was very much faded. So light-coloured is it, that it may bear comparison with the figure of *Aquila belisarius* given in Levaillant's 'Exploration Scientifique d'Algérie,' which, there is no doubt, is referable to this species. A few of the darker feathers of the fresh moult just show themselves. On dissection, the sex was not to be traced. While staying at the same place, a young bird just beginning to change its down for feathers was brought to us. This we took from place to place, and eventually deposited in the Gardens of the Zoological Society of London, where it may now be seen.

7. Aquila bonelli. (Bonelli's Eagle.)

While staying at Sousa, in the Regency of Tunis, in February, an immature bird of this species was brought to me by an Arab, half-dead. We saw others in the Regency, where it appeared to be more numerous than further to the westward. In the Souk Harras district I did not meet with it, except on one occasion, when I found a decaying specimen laying on a heap of rubbish opposite the door of the hotel of that town. A pair frequent, and, according to an informant at Tunis, annually breed near the ruins of Utica; one of these birds I saw when visiting the site of that city.

8. Aquila pennata. (Booted Eagle.)

On several occasions I observed a pair of these Eagles about the rock of "Gala el Hamara;" but though I kept a sharp look-out for the nest, I never could discover it. About Djebel Dekma I more than once saw the Booted Eagle; and indeed during our whole stay in the Souk Harras district, birds of this species were occasionally observed.

9. Circaëtus gallicus. (Short-toed Eagle.)

The first time I met with this species was just on entering the Arab village of Testour, between Tunis and Kef. One flew over my head, and, coming between me and the sun, threw a shadow which attracted my attention. I brought it down by a lucky shot without dismounting from my horse. A few days afterwards another was killed. The Short-toed Eagle was observed on many occasions in all the districts visited, but is perhaps more numerous about Souk Harras than elsewhere.

The first nest of this species we obtained was brought from Blad el Elma, a village to the south of Djebel Dekma; it contained two eggs, both which had been incubated some time, so that the long bare tarsi and large eyes of the embryo left little doubt as to the identity of the species. Of these eggs one had slight indications of colouring, a feature I have never observed in other specimens. The eggs are usually deposited in March; but some birds defer laying till April. The Arabs call this bird the "White Eagle"—"*Hogarb abiad.*"

10. PANDION HALIAËTUS. (Osprey.)

In the lagoon of El Baheira, a number of posts are fixed to direct the boats that ply between Tunis and La Goletta. These are the favourite perches of several Ospreys, which during the winter months fish in the lagoon, and retire to these posts to feed on and digest their prey. While at Bona, I saw one bird flying along the sea-coast.

11. BUTEO TACHARDUS. *Buteo cirtensis,* Levaill., jun. (The African Buzzard.)

This species is by no means common in the district where other rapacious birds so abound. I have but few instances of its occurrence noted. One of these was at Khifan M'sakta, where a pair had their nest. On another occasion I saw two in a rocky pass near Ras el Alia. Subsequently Mr. Simpson shot one near the salt lake of Guerah el Tharf. The eggs, as might be expected, differ immaterially from those of the Common Buzzard (*Buteo vulgaris*).

12. MILVUS REGALIS. (Common Kite.)

For the most part, we found the nests of the Kite were much dispersed; I have no instance noted of more than a pair occupying one cliff. When in a rock, they were usually placed where a small tree or shrub grew out of a crack. Such was the case at Djebel Dekma, Khifan M'sakta, and Kef Laks, with a single exception. In this case the nest was in a hole in the precipice that forms the western termination of Djebel Dekma. The young in this nest were hatched in the first week in April. About the Ouled Zeid country, north of Souk Harras, the nests were usually in trees. Nearly all the eggs we obtained were remarkably devoid of colouring. The Arabs call this bird "*Hadayia hamara,*" or the "Red Hadayia."

13. Milvus ater. (Black Kite.)

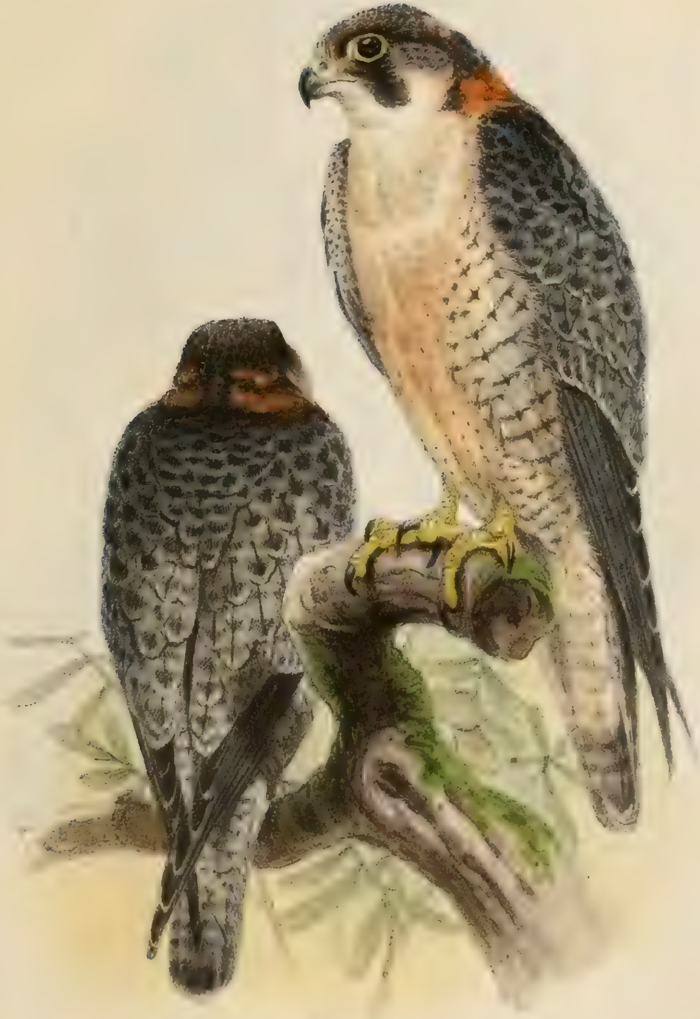
During the breeding-season this species is much more abûndant in the Souk Harras district than *M. regalis.* Indeed, with the single exception of the Kestrel (*Tinnunculus alaudarius*), it is the commonest rapacious bird in the Eastern Atlas. I never saw *M. ægyptiacus.* This latter appears to be a more southern species; and a very distinct line of demarcation might probably be drawn between the territories of these two near allies. Like the preceding, it selects for the position of its nest the roots of a shrub growing out of a rock, and builds a structure composed principally of sticks, with a lining of rags, wool, &c., while on the surrounding branches are fantastically hung old pieces of burnouses of various colours. I have also seen nests of the Common Kite decorated in this curious fashion. The Black Kite plays the part of scavenger in the districts where it abounds; and over every French settlement and Arab village several may be seen flying boldly round, on the look-out for any fragment of carrion that may be lying about. Its fearless and familiar manner and beautiful flight render this bird decidedly one of the most interesting in the country. The eggs are laid from the middle to the end of April, and are more distinctly and deeply marked than those of the other species. A series of the eggs of the two from the same district, placed side by side, present a marked contrast. This bird is known to the Arabs by the name "*Hadayia söda*"—the "Black Hadayia."

14. Elanus melanopterus. (Black-shouldered Kite.)

On two occasions, among the Tamarisk trees, near where the Chemora empties itself into the Lake of Djendeli, I saw a bird which I had little hesitation in considering as of this species.

15. Falco barbarus. (Barbary Falcon.) (Plate VI.)

There cannot be much doubt that the small Peregrine of the Atlas, the *Falco punicus* of General Levaillant, is in truth the "Barbary Falcon" of the old writers on Hawking, the foundation of the *F. barbarus* of Linnæus, Gmelin and Latham, though this latter name has generally been supposed to be a synonym



of *F. peregrinus*, auct. Messrs. F. H. Salvin and W. Brodrick, in their 'Falconry in the British Isles,' have given a good figure (plate xvii.) of an immature tiercel or male bird; and they justly remark (p. 101) that, "although smaller by nearly a fourth than the [true] Peregrine, it has the organs of destruction, such as the beak, feet, and talons, fully as large, united to longer and more pointed wings in proportion to its total length —in this respect almost rivalling the Hobby." The same authors quote from an old work, 'The Gentleman's Recreation' [1677], page 208, the following :—

"The Barbary or, as some call her, the Tartaret Faulcon, is a bird seldom found in any country, and is called a Passenger as well as the Haggard [*F. peregrinus*]. They are somewhat lesser than the Tiercel-gentle [*F. peregrinus*, ♂], and plumed red under the wings, strong-armed, with long talons and stretchers.

"The Barbary Faulcon is venturously bold, and you may fly her with the Haggard all May and June. They are Hawks very slack in mewing at first; but when once they begin, they mew their feathers very fast.

"They are called Barbary Faulcons because they make their passage through that country and Tunis, where they are more frequently taken than in any other place, namely in the Isles of the Levant, Candy, Cyprus, and Rhodes."

Messrs. Salvin and Brodrick go on to observe, of the subject of their plate, "The specimen in our possession is that of a young male, and was killed by an acquaintance in the country from which it takes its name. Its length is under 13 inches from the beak to the end of the tail; length of wing from shoulder to tip 11 inches, with the bill, legs, and feet equal in size to those of the male Peregrine. The young female is scarcely to be distinguished from the young male Peregrine, except by the greater development of these organs of destruction, which equal those of the Falcon. The cere in the young bird is blue, and the legs yellow,—similar in this respect also to the Peregrine."

It may be that M. Temminck's description of his *Falco peregrinoïdes* (Pl. Col. livr. 81) was taken from one of these birds; if so, he has confounded this species with the real *F. peregrinoïdes* of Sir Andrew Smith—a South African form,—as well as with the true *F. lanarius* of Dr. Schlegel, an adult male of which the figure (Pl. Col. 479) very much resembles.

It is probable that the geographical range of this beautiful miniature Peregrine is extremely limited; the Atlas, however, appears to be its focus. In the Museum at Norwich is an immature specimen, said to come from Western Africa, where, however, if it occurs, it is most likely only as a straggler. Mr. J. H. Gurney has had three living birds of this species, all nestlings brought from Algeria,—two by Mr. Tristram, in 1856, and one by Mr. Simpson and myself, in 1857. One of them made its escape last autumn; but the other two are still at Catton, and seem to be in good health. They all three, as is usual with the true Falcons, moulted into the adult plumage when about fifteen months old. Of European localities for this bird, it would seem, from the concluding sentence in the extract above given from the 'Gentleman's Recreation,' that it has been taken in Crete, as well as in the Asiatic islands of Cyprus and Rhodes*. It is very possible that it may not be uncommon in Spain, especially the interior of the country; and it is pretty sure to occur accidentally at Gibraltar, where a good look-out should be kept for it. Its small stature, powerful feet and claws, and its ruddy under-plumage, will prevent its being taken for the common Peregrine by any one to whom these peculiarities are known.

The rediscovery, if it may be so called, of this bird, is another most interesting proof of the extreme accuracy of the old writers on Falconry; of which the determination of the true Lanner (*F. lanarius*, Schl.), and the separation from it and other allied species of the Saker (*F. sacer*, Schl.), are notable instances. In these two latter cases the judgment of Dr. Schlegel is not likely to be reversed; and the distinctness of the Barbary Falcon from the Peregrine, which has long been and still is a tradition among falconers, will probably be as much confirmed by future researches as that opinion.

---

* The late Mr. W. B. Barker, in his work on Cilicia, says that the Peregrine of Mount Taurus is known as the "Barbary Falcon" ("Lares and Penates," p. 297). Now if, as the old writer above quoted says, it is really found in Rhodes and Cyprus, this may be the case; but, at the same time, it is perhaps more probable that the bird mentioned by Mr. Barker is the true Lanner (*F. lanarius*, Schl.), of the existence of which he does not seem to have been aware, since the species he calls the Lanner is the Saker (*F. sacer*, Gm.), as was proved by a living bird he presented to the Zoological Society.

My own experience of this bird was entirely confined to the Eastern Atlas, where in some districts it is by no means uncommon. I had many opportunities of watching the birds, and was present at the siege of three of their eyries, besides discovering others which were inaccessible. The first of these nests was in a hole in the eastern portion of the rock of Djebel Dekma. To this nest, for a long time Mohamed obstinately refused to ascend; it was his first experience in rope-climbing. Two dollars, however, produced the desired effect; and after five hours' hard work, during which we had to employ every available foot of cord, even to our tent-lines, we were rewarded with three eggs. While the siege was going on, I shot one of the old birds. A few feet from the nest of the Lämmergeyer in Khifan M'sakta was another nest. From this we took on the 9th of April four eggs just ready to hatch. The parent birds I watched for some time as they flew anxiously round, but did not shoot one. On the 20th of April an Arab reported that he had found a nest of "*Bournee*" in Kef Boudjato, a rock situated no great distance from Kef Laks. I immediately started to the spot, taking with me Mohamed, my gun, and ropes. A successful siege was the result; and I returned to the tents with three eggs and one of the parent birds. The measurement of an egg from each of these three nests I subjoin. The Barbary Falcon brought to England by us (mentioned above as now in Mr. Gurney's possession) was procured from a rock near the Marabout of Sidi Khalifa Cherif, on the northern boundary of the extensive plain that holds the salt lake of Guerah El Tharf. Bil Ghazoum, our interpreter, and Mohamed, our climber, took it and another from the same nest about the 8th of May. They had then almost assumed their feathers. Between these two birds there subsisted a marked difference in size; and the smaller of the two had, in addition to the rufous marking at the back of the neck, a light-coloured reddish head. We kept them about two months, during which time they came to their full feather, the same inequality in size subsisting between the two. They were, doubtless, male and female. Unfortunately the male died during the journey between Marseilles and Paris, and we had no means at hand for preserving it. The female is now at Catton. From this female it would appear that all Mr. Gurney's birds were females, as all corresponded in size; and I am also led to the conclusion that the two skins I possess, from one of which the accompanying figure is taken, are also females, as Mr. Gurney kindly compared them with his living examples, and in point of size they presented no appreciable difference. I mention this, as my two skins are marked male and female; but I was evidently mistaken in one or other, as both are as nearly as possible the same size, or, if anything, the one marked male is the larger of the two. From the stomach of both these specimens I took examples of a large species of *Entozoon*, but unfortunately did not preserve them. I am indebted to Mr. Alfred Newton for the quotations which I have given above respecting this bird, and also for the probable references which I subjoin:—

Accipiter falco tunetanus, *Briss.* Orn. i. p. 343 (1763).
Falco barbarus, *Linn.* Syst. Nat. p. 125 (1766).—*Gmel.* Syst. Nat. p. 272 (1789).—*Lath.* Ind. Orn. p. 33 (1790); Syn. i. p. 72 (1781); Gen. Hist. B. i. p. 82 B (1829).
Falco alphanet, *Schl.* Tr. sur la Fauconnerie.
Falco punicus, *Levaill. jun.*, Exploration Scientifique d'Algérie.
Gennaja barbarus, *Bonap.* Cat. Ois. d'Eur. et de l'Alg. (1856).
Barbary Faulcon, Gentl. Recr. p. 208 (1677).
Barbary Falcon, *Albin*, Nat. Hist. B. iii. pl. 2 (1738).—*F. H. Salvin and Brodrick*, Falconry, p. 101, pl. 17. (Av. hornot.)

The Barbary Falcon is well known to the Arabs as "*Bournee.*"

The measurements of the eggs referred to above are:

(1.)	Axis	. . 1 in. 11 lines.	Diameter	. . 1 in. 7·5 lines.
(2.)	„	. . 1 „ 10·5 „	„	. . 1 „ 6 „
(3.)	„	. . 2 „ 0·5 „	„	. . 1 „ 6·75 „

In point of colouring they appear subject to the same varieties as the Common Peregrine (*Falco peregrinus*).

The measurements of my two skins are, in inches and decimals:

(1.) Whole length 13·0; wing 11·25; tail 5·75; tarsus 1·60; bill from gape 0·95.

(2.) Whole length 13·5; wing 11·0; tail 5·0; tarsus 1·7; bill from gape 1·0.

From this last bird Mr. Wolf's drawing is taken.

16. HYPOTRIORCHIS ELEONORÆ. (Eleonora's Falcon.)

On two successive mornings I had the gratification of observing this species. We were encamped on the banks of the Chemora, on the south side of the hills that skirt the southern shore of Lake Djendeli. On the 27th of May I had been out to collect specimens of the Alpine Swift (*Cypselus melba*), many of which I had seen flying over the plain, and was returning to breakfast, when one of four hawks which I had previously been watching with some curiosity (not knowing what they were) came over my head, and fell to a discharge of dust-shot. It proved to be a splendid female of *H. eleonoræ*, in full adult dress. The following morning I saw one about the same spot, but failed to get a shot. It would appear that this bird is a late breeder, as the eggs in the ovary were not at all forward, and the perfect state of the feathers showed that no eggs had been incubated. The plumage of this specimen retained, for some time, a peculiar smell, possibly owing to the nature of its food, which, though I neglected to examine at the time, I conjecture to have consisted principally of *Coleoptera*. Of the colouring of the fleshy parts of this specimen I have the following note:—Bill blue at the base, black at the tip; cere yellowish-blue; legs yellow; claws black; eyelid yellow; irides dark brown.

The Zoological Gardens at Marseilles, when I visited them in July 1857, contained three birds marked *F. eleonoræ*. They were in the Hobby plumage, and apparently nestlings that had just assumed their feathers.

17. TINNUNCULUS ALAUDARIUS. (Common Kestrel.)

The Kestrel is very abundant throughout the Eastern Atlas, breeding in cliffs and Roman remains of sufficient height. When I visited El Djem, in the Regency of Tunis, in February, I found the ruined amphitheatre tenanted by about twenty pairs. They are said to reside and to build their nests in the most inaccessible ledges of the structure. This amphitheatre is perhaps one of the finest Roman remains in the country, but is, I fear, destined to last no lengthened period; for, besides the ravages of time, the ruthless Arabs daily hasten its downfall by pulling out the stones, to employ them in the construction of their miserable hovels. Strange to say, we never obtained a single egg of this species.

18. CIRCUS ÆRUGINOSUS. (Marsh Harrier.)

About the middle of May a violent hailstorm passed over us while we were encamped at Aïn Djendeli. The hailstones were of such a size, that the trees were stripped of their foliage, and many birds, even ducks, were killed. The day following, a Marsh Harrier, half-dead, was brought to our tents by an Arab, having, doubtless, been reduced to that state by exposure to the fury of the storm. It rallied a little on being taken into the tent, but died shortly afterwards. I have no other instance noted of our having met with this bird.

19. ATHENE NUMIDA. *Strix numida,* Levaillant, Exploration Scientifique d'Algérie, Ois. pl. 4. (Algerian Little Owl.)

This close ally of the Little Owl (*A. noctua*), if, indeed, it is really distinct, we found generally distributed, but nowhere abundant in the districts visited. While staying at Djendeli, we obtained, towards the end of May, two nests, from off the eggs of one of which the bird had been caught. In the olive-groves about Tunis, this bird may frequently be met with. In this neighbourhood also it is said to breed, choosing for the position of its nest the wells and old Roman cisterns which so abound throughout the district.

20. SCOPS ZORCA. (Scops-eared Owl.)

In the Djendeli district we found this Owl abundant; every night its peculiar cry might be heard from one or more individuals. Several birds were brought to us by the Arabs, which had been caught on their nests. One of these, whose wing had been injured, we kept for some days in the tents; but after a time it disappeared, having probably hopped off in the night. Many of the Arabs are very skilful in catching birds; Larks (*Alauda*), Owls (*Athene* and *Scops*), Rollers (*Coracias*), and now and then a Little Bustard (*Otis tetrax*) were brought to us. I am not aware that they employ other means than the burnous in effecting their object. This they hold extended with both hands, when, after having kicked their shoes off, that they may tread more quietly, they endeavour to envelope bird, nest, and eggs in the universal garment. The cry of the Scops-eared Owl is admirably expressed by the Arabic name "*Marouf.*"

[To be continued.]

XX.—*On the Breeding of the Crane* (Grus cinerea) *in Lapland.*

By John Wolley, jun.

In common with, I believe, most people interested in such matters, I was long entirely in ignorance as to the condition in which the young Crane (*Grus cinerea*) would be found on first leaving the egg, whether helpless like a young heron, or able to run about like the young of most waders and of gallinaceous birds. The late Prince Charles Bonaparte had inclined to think they would long continue nestlings; Mr. Gould, as he assured me, had always opposed the probability of this opinion.

It was on the 15th June, 1853, that I entered the marsh which the well-known Pastor Læstadius had told me was the most northern limit in Lapland of the breeding of the Crane. It is in Swedish territory, being on the west side of the frontier river, opposite the Finnish (Russian) village of Yli Muonioniska, in about lat. 68°, that is, some distance within the Arctic Circle. This great marsh, called "*Iso uoma,*" is mostly composed of soft bog, in which, unless where the Bog-bean grows, one generally sinks up to the knees, or even to the middle; but it is intersected by long strips of firmer bog-earth, slightly raised above the general level, and bearing creeping shrubs, principally of sallow and dwarf birch, mixed in places with *Ledum palustre*, *Vaccinium uliginosum*, *Andromeda polifolia*, *Rubus chamæmorus*, besides grasses, *carices*, mosses, and other plants. There were also a few bushes or treelets of the common birch, and these quite numerous in some parts of the marsh.

Walking along one of these strips, in a direction where the pair of Cranes was said to be often heard, I came upon a nest which I was sure must be a Crane's. I saw one bit of down. The nest was made of very small twigs mixed with long sedgy grass; altogether several inches in depth, and perhaps two feet across. In it were two lining-membranes of eggs, and on searching amongst the materials of the nest I found fragments of the shells. We had not gone many yards beyond this place, when I saw a Crane stalking in a direction across us amongst some small birch trees, now appearing to stoop a little, and now holding its head and neck boldly up as it steadily advanced. Presently the lads called out to me that they had found some young Cranes. As I ran towards them, a Crane, not the one I had previously seen, rose just before me from among some bushes which were only two or three feet high, and not twenty yards from the place where the lads had been shouting at least for a minute or two. It rose into the air in a hurried, frightened way. There was nothing just at the spot where it got up, neither eggs nor young. I then went up to where the two little Cranes were found. They were standing upright and walking about with some facility, and making a rather loud "cheeping" cry. They seemed as if they could have left such eggs as Cranes were supposed to lay only a very few days. I say *supposed*, for in England we know nothing of the eggs which are called Cranes', but which may have come from any part of the world. They were straightly made little things, short in the beak, livid in the eye, thick in the knees, covered with a moderately long chestnut or tawny-coloured down, darker on the upper parts, softening away into paler underneath. As I fondled one of them it began to peck playfully at my hands and legs, and when at length I rose to go away, it walked after me, taking me as I supposed for one of its long-legged parents. I had only just before been plucking from it some bits of down to keep; for, valuable as I knew it to be in a natural-history point of view, I could not make up my mind to take its life. As soon as I saw its inclination to follow, I took to double-quick time, and left it far behind. Its confidence was the more remarkable, as, all the time we were with it, the old Cranes were flying round near the ground at some distance from us, their necks and feet fully stretched out as usual, but with a remarkable sudden casting up of the wings in a direction over the back after each downward stroke, in place of the ordinary steady movement. At the same time they were making a peculiar kind of low clattering or somewhat gurgling noise, of which it is very difficult to give an intelligible description, and now and then they broke out into a loud trumpeting call not unlike their grand ordinary notes, which, audible at so great a distance, gladden the ears of the lover of nature. As we went away I saw one of the Cranes alight where we had left the young. Later in the day I had a longing wish to have another look at my young friends. I thought of the old naturalists—who would have called them "peepers" I suppose—one of whom wrote of the Crane in our fens, "*ejus pipiones sæpissimè vidi.*" To see them now-a-days twice in a life, and that not in England, would be a consolation. But it was not to be so; we came back to the spot where we had parted with them, rested for three or four hours round a stone that projected from the marsh, but we saw and heard nothing more of either old or young Cranes. In a morass with another name (which it took from a hill that overlooked it), "*Kharto uoma,*" but which was only separated from "*Iso uoma*" by an interval of a mile or two of birch thicket, there were also Cranes, and I found their nest with the egg-shells lying in the water by it, and so many quill-feathers scattered about, that I almost feared some accident had happened to the sitting bird.

The following year, 1854, on the 20th of May, I went with only Ludwig my servant-lad, to look for the Crane's nest in "*Iso uoma.*" We saw no birds, and the spot where the nest had been the preceding year was not easy to find in so extensive a marsh. So we quartered our ground, working carefully up one strip of harder bog and down the next. After some hours of heavy walking I saw the eggs—joyful sight!—on an adjacent slip in a perfectly open place. The two eggs lay with their long diameters parallel to one another, and there was just room for a third egg to be placed between them. The nest, about two feet across, was nearly flat, made chiefly of light-coloured grass or hay loosely matted together, scarcely more than two inches in depth, and raised only two or three inches from the general level of the swamp. There were higher sites close by, and many of them would have seemed more eligible.

It was just at the lowest edge of the strip, but so much exposed, that I thought I should be able to see even the eggs themselves from a spot at a considerable distance, to which I proposed to go. There was a common story amongst the people of the country, that a Crane, if its nest were disturbed, would carry off its eggs under its wing to another place; so I purposely handled one of the eggs, and hung up a bit of birch bark on a birch tree beyond the nest, as a mark by which to direct my telescope. Then I went with Ludwig to a clump of spruce growing on some dry sandy land which rose out of the midst of the marsh. Here I made a good ambuscade of spruce boughs, crept into it, got Ludwig to cover me so that even the Crane's eye could not distinguish me, and sent him to make a fire to sleep by on the far side of the wood, with strict orders on no account to come near my hiding-place. I kept my glass in the direction of the nest, but it was long before I saw anything stir. In the mean time the marsh was by no means quiet; Ruffs were holding something between a European ball and an East Indian nautch. Several times "keet-koot, keet-koot," to use the words by which the Finns express the sound, told where the Snipes were. A cock Pintail dashed into a bit of water calling loudly for its mate. The full melancholy wailing of the Black-throated Diver came from the river; watch-dogs were barking in the distance; I heard the subdued hacking of wood and the crackling of Ludwig's fire. It was already about midnight; Fieldfares were chasing each other through the wood; one came pecking about my feet, and another, settling on the branches that covered my back, almost made my ears ache with the loudness of its cries. I often heard the waft of known wings, but three times there sounded overhead the sweeping wave of great wings to which my ears were unaccustomed. I could scarcely doubt it was the Cranes', but I dare not turn up my eye: I even once or twice heard a slight chuckle that must have been from them. At length, as I had my glass in the direction of the nest, which was three or four hundred yards off, I saw a tall grey figure emerging from amongst the birch trees, just beyond where I knew the nest must be; and there stood the Crane in all the beauty of nature, in the full side light of an Arctic summer night. She came on with her graceful walk, her head up, and she raised it a little higher and turned her beak sideways and upwards as she passed round the tree on whose trunk I had hung the little roll of bark. I had not anticipated that she would observe so ordinary an object. She probably saw that her eggs were safe, and then she took a beat of twenty or thirty yards in the swamp, pecking and apparently feeding. At the end of this beat she stood still for a quarter of an hour, sometimes pecking and sometimes motionless, but showing no symptoms of suspicion of my whereabouts, and indeed no manifest sign of fear. At length she turned back and passed her nest a few paces in the opposite direction, but soon came in to it; she arranged with her beak the materials of the nest, or the eggs, or both; she dropped her breast gently forwards, and, as soon as it touched, she let the rest of her body sink gradually down. And so she sits with her neck up and her body full in my sight, sometimes preening her feathers, especially of the neck, sometimes lazily pecking about, and for a long time she sits with her neck curved like a swan's, though principally at its upper part. Now she turns her head backwards, puts her beak under the wing, apparently just in the middle of the ridge of the back, and so she seems fairly to go to sleep. While she sits, as generally while she walks, her plumes are compressed and inconspicuous.

By this time all birds, excepting perhaps a Fieldfare, are silent. I was now sure the Crane would not carry off her eggs. After enjoying for a short time longer this sight—and no epithet is yet in use which expresses the nature of the feelings created by such scenes in the minds of those who fully enjoy them—I found that the air was freezing. I quietly got up, and on reaching the fire made myself comfortable. Some four hours later, that is, between four and five in the morning, we came again to the west side of the hill; there lay the Crane, head and neck still invisible;

we may have whispered too loud, for she soon raised her head. I now wished to see how she would leave the nest, whether crouchingly or not. I took a line not directly towards it, curving more upon it as I advanced, of course taking care to keep my eyes in a different direction. When I believed that I was just opposite, I looked, as I thought, towards the place, which might be about twenty paces off, but I did not at first recognize the bird. She was a few feet from the exact spot I had expected, and I unconsciously took her for a grey stone, till my eye turned directly on her. I had then just time to mark her position with her head drawn in between her shoulders, when, having caught my glance, she rose steadily into the air. In one part of the nest was a damp spot from the water of the marsh having soaked through. The eggs now lay touching each other. When I came to blow them, I found to my surprise that they were one or two days sat upon. In 1855 this nest, as Ludwig informed me, was robbed by a Fielfras (*Gulo borealis*). I had the pleasure of showing it, towards the end of the summer of the same year, to my friend Mr. Alfred Newton, who thought the difficulties of the bog fully repaid by the sight even of an empty Crane's nest. We found on this occasion, on examining the materials of the nest, old pieces of egg-shell, showing that it was the same nest that had been used in previous years.

I must not go into long particulars concerning the nest of 1854 in *Kharto uoma.* I found the two eggs on the 22nd of May, in a spot only two feet from the nest of the preceding year. It consisted of not more than a handful or so of whitish sedge grass, about twenty inches across and two or three inches only above the level of the water of the submerged parts of the marsh, close to the edge of which it was situated. There was a kind of creeping moss about it, and one or two very low-lying shoots of sallow.

It was placed in an open part of the middle of the south-east wing of the marsh. I have a memorandum that there was not then a leaf unrolled, the only visible signs of summer being a kind of *Carex* coming into flower on the hummocks, and yet the nights were quite as light as the day. I kept watch at the distance of nearly half a mile; but unfortunately the smoke of my fire blew towards the nest. I saw a Crane go sailing down, and afterwards the pair walking together, when they indulged in a minuet or some more active dance, skipping into the air as the Demoiselles sometimes do in the Zoological Gardens. Once or so I saw the beak of one pointed perpendicularly to the sky, and a couple of seconds afterwards the loud trumpet struck my ear. It was two or three o'clock in the morning before a bird came on to the nest, and even then she was soon off, but again came back, sitting always with her head up. She left it very wild, when at last we advanced from our bivouac. In this watch I saw and heard many interesting birds, amongst them a Hen Harrier (*Circus cyaneus*). Also a pair of Goshawks (*Astur palumbarius*) dashed into a tree close over my head, the Crane still visible in the distance. These eggs were rather smaller than the pair from *Iso uoma*; two other nests which I have since obtained in Lapland have eggs as big as those which are said to come from Germany, and vary as they do. I had the pleasure in August 1857 of showing Mr. Frederick Godman and his brother Percy a nest near Muonio-vaara, from which eggs were taken the same year, and a young one fledged, from the same marsh at least, if not from the same nest, as in 1856. Their wading to this nest, known to be empty, amidst swarms of greedy gnats, was a satisfactory proof of zeal.

The locality was in a perfectly open part of the rather small marsh, which was scarcely half an English mile across; so that the bird on its nest must have been most conspicuous from every side. It was on a little elevation, not more than one stride across, and raised only a few inches above the water. The eggs on the 5th of June were a good deal sat upon. The finders did not venture to leave them, both for this reason, and because a large hawk was believed to be watching them. They assured me that the birds did not cry, which agrees with my experience of their behaviour when I was near the other two nests.

I went the day after the eggs were taken to see the place. There was still ice enough down in the bog to prevent me sinking beyond a certain moderate depth: not so when the Godmans tried it. The nest, as usual, was of the kind of sedgy grass which grew in the same marsh, near the nest. Some of the pieces had been pulled up by the roots. It was twenty-seven inches across, and three or four inches in thickness, perfectly flat; dripping wet in its lowest layers. The birds sailed over our heads to another part of the marsh, where I examined them with my glass.

It will be deduced from what I have stated that the Crane in Lapland is not gregarious when it has once arrived at its summer quarters; that as soon as it reaches its breeding-place, for the most part as soon as the snow is mainly off the ground, it repairs its simple nest, and lays its two eggs; for two were in the four nests that have occurred to me, and two generally say those few natives who know anything about the subject. The nest is neither large nor concealed. The birds are silent towards intruders on the eggs. The young run probably as soon as, or soon after, they are hatched, and by some means are led or conveyed to a great distance by their parents after having been disturbed. They have a chestnut or tawny down; no feathers visible in their wings for some time. In Lapland, and as far as I have heard, in Sweden and Finland generally, the Crane never breeds otherwise than on the ground. It seems not to visit Norway.

April 4, 1859, Beeston, Nottingham.

XXI.—*Recent Ornithological Publications.*

1. English Publications.

The correspondent who furnished us with the review of Mr. Bree's 'Birds of Europe not observed in the British Isles,' published in our first Number, begs us to insert his apologies to that gentleman for having accidentally misquoted his words. In the extract given at page 96 of 'The Ibis' from Mr. Bree's account of *Aquila pennata* (Birds of Europe, page 70), the word "*not*" was unintentionally inserted. Four additional parts of this book have now appeared; and we hope to be able to persuade our correspondent to continue his able criticisms. But in the meanwhile we cannot avoid noticing a point in which we consider Mr. Bree in error. With reference to what he calls the "Azure-winged Magpie," it has now long been known that the

Spanish bird is quite a different species from the true *Pica cyanea* of Siberia. It was first brought to the notice of ornithologists, we believe, by Capt. Cook (afterwards Widdrington), the author of 'Sketches in Spain.' In that work (vol. ii. p. 258), it will be found alluded to as *Pica cyanea*. But some of his specimens having been placed in the hands of the late Prince Bonaparte, that acute observer instantly recognized their distinctness, and, on exhibiting them at the meeting of the British Association held at Birmingham in 1849, proposed to call the Spanish bird *Pica cooki* (see Report Brit. Assoc. 1849, p. 75). In the Prince's article on the Garruline Birds, in the Proc. Zool. Soc. for 1850, and in his 'Conspectus' (p. 382), the differences between the two species are clearly pointed out. They are very noticeable on comparison. Mr. Bree, though he figures an egg supposed to be of this bird, gives no details as to its nidification, or indeed as to its habits. He has apparently quite overlooked the interesting article of Baron R. König-Warthausen on this subject in the fourth volume of 'Naumannia'*, and the notice of its eggs given in Cabanis' 'Journal für Ornithologie,' 1856, p. 32. We may also remark, that *Garrulus krynickii* of the Caucasus, *G. melanocephalus* of Syria, and *G. cervicalis* of Algeria are now generally considered as distinct species. The striking differences between the two latter are well pointed out by Mr. Tristram (who has himself observed both in a state of nature) in our last Number†. The Caucasian bird alone has some claims to be considered European.

The 4th and concluding part of the 'Illustrated Proceedings of the Zoological Society' for 1858 is not yet out; but we believe it will appear very shortly.

The 'Annals of Natural History' for February contain two articles relating to our branch of zoology. We cannot believe that Mr. Strickland's supposed new British Goose (*Anser paludosus*!) has remained so long unnamed. Is it Naumann's *Anser arvensis*, as distinguished from *A. segetum* in 'Naumannia' (iii. p. 5, pl. 4), or is it the true *A. segetum*? The second paper, Mr. Wallace's "Correction of an important error affecting the classification of the Psittacidæ" (p. 147), affords valuable additional testimony to an improvement already made in our modern systematization of this group of birds. But Dr. Weinland has already written an elaborate article on this subject in the second volume of Cabanis' 'Journal für Ornithologie' (No. 12. p. lxix.), and clearly shown the close connexion between *Trichoglossus* and *Lorius*. Though we quite agree with Mr. Wallace as to the slight difference between the genera *Lorius* and *Eos,* we should prefer using the former name for the whole group as united, it having been constituted by Vigors in 1826 (Zool. Journ. ii. p. 400), long before Wagler's *Eos,* and moreover with the important character "*lingua setosa*" duly noticed.

---

* See 'Naumannia,' 1854, p. 30.

† See *antea*, p. 32.

A lately published addition to the British Museum Catalogues is that "of the Mammalia and Birds of New Guinea," by Dr. J. E. Gray and Mr. G. R. Gray. The list of birds is founded on the article "On the Zoology of New Guinea," published in the 'Proceedings of the Linnean Society' for December 1857, and on the "List of Birds obtained by Mr. Wallace in the Aru and Ké Islands," by Mr. G. R. Gray, in the Proc. Zool. Soc. 1858 (p. 169). The catalogue will be useful now that so much attention is attracted towards this peculiar zoology by Mr. Wallace's discoveries. One or two species, we think, are wrongly inserted; for instance, *Eurystomus gularis* and *Tchitrea gaimardi* are now well known to be African species *. *Dacelo undulatus* (p. 19) is most probably *Dacelo gigas* of Australia, though it is possible that it may be rediscovered as an independent species. *Lorius cardinalis* (p. 39) is the same as *Eclectus linnæi* (see P. Bp. in Proc. Zool. Soc. 1849, p. 143). The true *Geoffroius personatus* (*Psittacus personatus* of the catalogue) is from Amboyna. The bird from New Guinea (Lobo) is, no doubt, *Geoffroius aruensis,* which differs from *G. personatus* principally in its smaller size.

The 'Edinburgh Philosophical Journal' for April 1859 contains the second part of Mr. Andrew Murray's "Contributions to the Natural History of the Hudson's Bay Territories." A list of the birds is given, accompanied by many important remarks. Two species of Grouse are said to have been confounded under the name *Tetrao obscurus*. A supposed new Bernicle is named

---

* Confer Verreaux in Rev. Zool. 1855, p. 415, and Pucheran in Arch. Mus. Par. vii. 372.

Bernicla leucolæma; and the occurrence of the new Eider-duck (*Somateria, v.—nigrum*) on Great Slave Lake is noticed.

In the 3rd number of vol. xxvii. of the 'Journal of the Asiatic Society of Bengal' (1858) will be found the "Report of the Curator of the Zoological Department" (Mr. Blyth) for May in that year, in which he notices several novelties. Twelve species of birds from the Andaman Islands had lately been added to the Museum:—*Halcyon coromandelianus* and *H. smyrnensis, Corvus culminatus, Kittacincla albiventris*, sp. nov. (mentioned in our last Number, as described in Mr. Blyth's letters), *Sturnia erythropygia, Tephrodornis grisola, Geocichla innotata, Copsychus saularis, Artamus leucorhynchus, Edolius*, sp.?, *Pycnonotus jocosus*, and *Carpophaga sylvatica*. From a collection of stuffed birds lately presented to the Society, Mr. Blyth describes a new Lory—*Eos fuscata* (several specimens of this beautiful bird have lately been transmitted from Havre-Dorey by Mr. Wallace); *Trichoglossus ochrocephalus*, sp. nov., and *T. immarginatus*, sp. nov. Mr. Blyth rather calls in question the distinctness of *Lorius tricolor* and *Lorius cyanauchen* (*superbus*, Fras.); they are, however, in our opinion (formed on Mr. Wallace's specimens, of which we have made mention below), quite different, and inhabit different localities. A description is also given (p. 280) of the *Diardigallus fasciolatus*, of which we spoke *antea*, p. 115. Is this really different from *D. prælatus*, Bp., C. R. xliii. p. 415? In a recent letter Mr. Blyth says, "perhaps not." A drawing, apparently of this species, taken in Siam from the living bird by Finlayson some years ago, is in the India House, and was exhibited at a recent meeting of the Zoological Society by Mr. Gould.

2. French Publications.

The first part of a new work, entitled 'Richesses Ornithologiques du Midi de la France,' published at Marseilles, by MM. Jaubert and Barthélémy-Lapommeraye, is in our hands. There is much information in this book about the rare birds which visit the singular district called the Crau d'Arles and its vicinity. Many of our readers will be surprised to learn that *Vultur monachus* is considered a regular bird of passage here, and that the *Otogyps* has occurred in the same country, as testified by its head, now in the Museum of Marseilles. But we cannot regard the S. Victoire Eagle (*Aquila barthelemyi*) as being really different from *Aquila chrysaëtos*, and we believe we may state that Mr. Gurney, who has living specimens in his possession, is nearly of the same opinion.

It is stated that Dr. Pucheran, of the Jardin des Plantes, has lately published in the 'Institut' a paper "sur les caractères générales de l'Ornithologie des Iles Sandwich," read before the Société Philomathique; but we have not yet seen it.

The last five numbers of the 'Revue et Magasin de Zoologie' for last year and the first for this year have been received. The papers relating to ornithology are (p. 346), "Note sur les *Lamprotorninæ*" (quære *Lamprotornithinæ*?), by M. Hartlaub. Dr. Hartlaub has, we are glad to say, in preparation a complete monograph of this difficult group of birds. "Description de deux nouvelles espèces d'Oiseaux découvertes dans le Sahara Algérien," par le Capitaine Loche: *Stoparola deserti* and *Malurus saharæ.* These appear to be the *Sylvia deserticola* and *Drymoica striaticeps* of Mr. Tristram, described in our last Number; but the figure of the former is barely recognizable. "Description d'un Perroquet nouveau," *Microsittace souancii* (p. 437), and "Observations sur le Perroquet mercenaire de Tschudi" (p. 513), by M. Jules Verreaux. The article called "Observations d'Ornithologie," by Dr. Pucheran, is in continuation of that author's valuable notes on the types of the Museum of Paris.

M. de Saussure's series of "Observations sur les Mœurs de divers Oiseaux de Mexique," in the 'Bibliothèque Universel,' published at Geneva, are remarkably interesting. The first of these (Bibl. Univ. 1858, i. p. 331) relates to the singular habits of a Woodpecker (*Colaptes rubricatus,* sive *mexicanus*), which stores up its acorns in the stems of aloes (*Agave*); the second (vol. iii. p. 14), to the habits of Humming-birds (*Trochilidæ*); the third (*ibid.* p. 168), to the Vultures; and the fourth and fifth (1859, vol. iv. p. 22), to the Trupials, Trogons, Anis, &c.

3. GERMAN PUBLICATIONS.

We have before us the fourth part of F. W. J. Baedeker's illustrated work, 'Die Eier der Europäischen Vögel.' Though the figures cannot, in our opinion, compete with those of Mr. Hewitson, they possess considerable merit, and are accompanied by a text containing accurately-written notes on the propagation of the different species, in which the author has obtained the assistance of Herr L. Brehm and Herr W. Paessler. The low price of this book—each 4to part of 8 plates and text only costing 12 shillings—ought to secure it an extensive sale.

The 'Sitzungsberichte' of the Academy of Sciences of Vienna for January last contain another important contribution to S. American ornithology from the industrious pen of Herr August von Pelzeln: it relates to new species of the genera *Synallaxis, Anabates,* and *Xenops* in the Imperial Collection, and is accompanied by extracts from the late Johann Natterer's notes on the *Furnariinæ* and *Synallaxinæ* which he met with in Brazil. No less than 20 species of *Synallaxis* and 17 of *Anabates,* in all upwards of 50 birds of these two subfamilies, were collected by that indefatigable naturalist.

The fifth number of Cabanis' 'Journal für Ornithologie,' dated "September 1858," was delivered in London on the 5th of January last. [We venture to hope that it will not be four months before the present part of 'The Ibis' reaches Berlin!] It contains original articles by Max. Prinz zu Wied, on the birds noticed during his travels in N. America; by Dr. Carl Bolle, on a new Finch from Western Africa (*Crithagra hartlaubi*), and some general notes by F. Boie. There are also some further interesting details concerning the nesting of the Lyre-bird (*Menura superba*), by Herr Becker, of Melbourne, S. A., and other shorter papers. Three nests and three eggs of the Lyre-bird were taken in the Yarra-Yarra mountains, near a station about 36 miles from Melbourne, in August 1857, by Mr. F. Williams. The egg of this species was first described and figured in the 'Journal für Ornithologie' for 1856 (p. 132, pl. 2. fig. 18). The 6th heft of the 'Journal' (for November 1858) is not yet arrived!

Of 'Naumannia' we have Parts ii. and iii. for last year. In Part ii. is a summary of the progress made in our knowledge of European oology, by the Editor. We hope that 'The Ibis' may be the means of gratifying Dr. Baldamus' not unnatural wish, that two of our most active recent workers in this department will make public their discoveries more fully and more widely than can be done by putting them into auction-catalogues. The third part is occupied with an account of the meeting of the German Ornithological Society at Harzburg, on the 27th of June last and following days. Twenty-eight members were present. The account of the proceedings, and the papers presented to the meeting, which follow, will be read with interest by all lovers of ornithology. We must call particular attention to Dr. Blasius' remarks on "doubtful species of the European Bird-fauna." The next meeting of the Society commences on the Wednesday in Whitsuntide week (June 15th) of the present year, at Stuttgardt.

The number of Wiegmann's 'Archiv' containing Dr. Hartlaub's "Bericht über die Leistungen in der Naturgeschichte der Vögel während des Jahres 1857" reached this country soon after the publication of the first Number of 'The Ibis.' It must be studied by every one who wishes to know what is going on in Ornithology. At p. 305 of the first volume of the same Journal for 1858 will be found the characters of a new Cormorant (*Graculus elegans*) in an article by Dr. R. A. Philippi, entitled "Beschreibung neuer Wirbelthiere aus Chili."

By Dr. Hartlaub's 'Bericht' our attention has been called to Dr. L. Buvry's "Mittheilungen aus Algerien," published in the 'Zeitschrift für allgemeine Erdkunde' for 1857. The author gives a general review of the "Ornis" of this region, which should be consulted by those who are now occupying themselves with Algerian ornithology. His promised book, 'Die Vögel Algeriens in kritischer Uebersicht,' has not yet, we believe, made its appearance.

At a subsequent page of the same Journal (p. 504) will be found some account of the proceedings of H. Radde, the Naturalist attached to the East-Siberian expedition of the Russian Geographical Society. In 1855 he was on the shores of Lake Baikal. In the spring of 1856 he reached the outposts of Kulusutajewsk, and had collected 100 birds at the end of the month, among which he mentions *Syrrhaptes paradoxus*. In

1857 he expected to be on the Amur, whence we believe he has already forwarded many interesting birds.

4. American Publications.

Prof. Baird of Philadelphia has reissued his "Index to the General Report on N. American Birds," noticed in our last number, in the shape of a "Catalogue of North American Birds, chiefly in the Museum of the Smithsonian Institution." In this shape it forms a convenient list of the birds of the northern portion of the New World. We have also received from Professor Baird the sheets of the second volume of the 'Report of the United States' and Mexican Boundary Survey,' relating to the birds collected by the expedition. There are many useful notes on their localities, habits, &c. from the pens of Dr. Kennerly, Lieut. Couch, and other well-known observers. This Report is intended to be illustrated with 23 coloured plates of the rarer species.

Page's 'La Plata, the Argentine Confederation and Paraguay; being a narrative of the exploration of the tributaries of the river La Plata and adjacent countries during the years 1853–56 under the orders of the U. S. Government,' contains, in the Appendix (p. 599), "Notes on the birds collected by the La Plata expedition," by Mr. Cassin. Mr. Cassin pronounces the collection to be "one of the most interesting ever made in South America," and to contain "numerous birds not before known." We hope, therefore, that he intends to give us a more complete account of it than is contained in the three pages devoted to these rather unsatisfactory notes. We shall gladly welcome such a useful contribution to South American ornithology.

The concluding sheets of the 'Proceedings of the Academy of Natural Sciences of Philadelphia' for last year contain a "Catalogue of Birds, collected by A. A. Henderson at Hakodadi, Island of Jesso, Japan, with Notes and Descriptions of Species, by John Cassin." Thirty-one species are mentioned, among which are two novelties of the family *Sylviidæ*, namely *Lusciniopsis japonica* and *L. hendersonii*. Mr. Cassin promises us an article on the birds of the Philippines, obtained during the same expedition by Dr. Henderson,—which we look forward to with much interest; as, though some fine collections have been made in those islands, and many new species described, we are destitute of any general account of their ornithology.

A new part of the quarto 'Journal' of the same Society (vol. iv. part i.) commences with illustrations of three very fine birds which have recently been described by Mr. Cassin: pl. 1, *Selenidera spectabilis*, a new Toucan, from Veragua; pl. 2, *Numida plumifera*, and pl. 3, *Phasidus niger*, both from Western Africa. The last bird is peculiarly interesting, as being a new form of the *Phasianidæ*, a group feebly represented in the Ethiopian Region by the genera *Numida* and *Agelastes*.

XXII.—*Letters, Extracts from Correspondence, Notices, &c.*

We have received the following letters from Mr. Gould and Mr. J. H. Gurney:—

To the Editor of the Ibis.

Sir,—As you will probably be desirous of recording in 'The Ibis' the capture of any of our rarer British birds, I send a few lines to inform you that a splendid female Goshawk (*Astur palumbarius*) was shot by one of the keepers of Sir S. Morton Peto, Bart., at Somerleyton, near Lowestoft in Suffolk, on the 24th of January in the present year. As I was shooting at Somerleyton at the time, the bird was placed in my hands soon after it was killed, and there can be no doubt, therefore, of its being a truly British specimen. The bird in question was a fine female, and weighed as nearly as possible 2 lbs. 14 oz. Had it lived another month or two at the utmost, it would have assumed its adult livery, a change having already commenced on the throat and upper part of the neck, the feathers on those parts being barred, while those on the breast had the usual elongated markings of immaturity. The bird had been noticed for nearly a month prior to its being shot, and on one occasion visited the neighbourhood of the keeper's house, causing the utmost alarm and consternation among his tame fowls. Its object in this instance was evidently not attained, as the keeper's wife saw it sitting quietly on the paling of the garden, and looking as sheepish as Falcons usually do when they miss their quarry.

The colouring of the soft parts was as follows:—Irides bright yellow; bill bluish, with a blackish-brown tip; cere and gape obscure yellow; legs and toes pale yellow.

I have been particular in describing the colouring of the soft parts, because these points, which are often of great interest, are too frequently neglected; and I would suggest to those who have the opportunity of observing our birds in a state of nature, the desirability of their carefully attending to and recording the colouring of the soft parts, from life, or immediately after death, of some of our rarer, and indeed of even our commoner birds, such as the Rails, Crakes, Sand-pipers, Ducks, and Sea-birds, and especially of their dress and colouring during the first few days of their existence, the downy or infantine dress being often most interesting, and comparatively unknown.

I am, Sir,
Yours very obediently,
John Gould.

20 Broad-street, Golden-square, W.
Feb. 3, 1859.

To the Editor of the Ibis.

Sir,—In Mr. E. C. Taylor's interesting paper in the first Number of 'The Ibis,' entitled "Ornithological Reminiscences of Egypt," that gentleman remarks, that in *Milvus ægyptius* "the beak is pale straw-colour and the irides are brown, characteristics which at once distinguish it from *Milvus ater* of Europe, which has the beak black *and the irides yellow*." I have now in my possession living specimens of both these species. I am able to state, that in both of them the irides are brown, the only difference between them in this respect being that the irides are a darker brown in *Milvus ater* than they are in *Milvus ægyptius*.

J. H. Gurney.

Catton Hall, Norwich,
Feb. 18, 1859.

The subjoined communication relates to the early appearance of the Night Jar :—

Whilst walking home from dinner on the evenings of the 4th and 5th of this month, I was extremely surprised to hear the note of the Night Jar (*Caprimulgus europæus*). On the former evening I fancied I must have been mistaken, as this bird is generally one of the latest migratory arrivals. The second evening, however, whilst standing still for a few minutes, the bird crossed the road, and uttered its familiar cry just in front of me. The Sallows are in many places in full bloom, and the spring Moths, such as *Tæniocampa gothica, cruda* and *stabilis,* and *Phigalia pilosaria,* are out, whilst all the hybernating Lepidoptera are on the wing; so the *Caprimulgi* are in no danger of paying the price of starvation for their premature arrival.

Rev. H. HARPUR CREWE.

Drinkstone, Woolpit, Suffolk, March 9, 1859.

Mr. Fraser's last letters are dated from Nanegal, on the western slope of Pichincha, February 12th. The following extracts relate to an expedition made from Riobamba to Chimborazo, for the purpose of obtaining specimens of the beautiful Humming-bird (*Oreotrochilus chimborazo*), which is only found on that mountain :—

"Riobamba is situated in the centre of a large sandy plain, at an elevation of 9600 feet above the sea-level. Having crossed this at 2 P.M., we passed through a small pueblo called Lican. Our road now lay round and between barren hills, with every sheltered spot in a state of cultivation, until at 3·30 P.M. we came to Calpi—a considerable pueblo, but without water. As the rain was beginning, and there was every appearance of a storm, we put up for the night here, under the eaves of an Indian hut. Our poor beasts had to go without food. It rained heavily all night. About 8 A.M. it cleared off very fine, and we thought it advisable to push forward, although we were passing the last house on the road. We now entered the monotonous *paramo,* where a considerable number of cattle were grazing. Chimborazo, cloud-capped, the snow descending very low, rose immediately in front, and apparently close to us. About 1 P.M. I pushed forward ahead of my cargoes, with the view of seeking some convenient spot to locate in. Soon after came on a hail-storm, of which we had a succession that afternoon. The wind made it extremely cold, and, my horse being knocked up, I was glad to get off and walk. Just at the point where the roads from Quito and Riobamba converge, was pointed out what was supposed to have been an aqueduct of the Incas. Below us was a very deep and wide *quebrada*, amongst the white rocks of which the Condors (*Sarcorhamphus*) are said to breed. We saw a few of these birds soaring above us, and two, which were not at any great height, appeared to be of a smaller species than that which I am acquainted with. Having arrived at a place called Panza, we halted: it hailed and rained in torrents. The mist was driving about so thick, that it was with great difficulty I found a spot for the night amidst some stunted trees. Fortunately, about 5 P.M. it cleared off again, and we had a fine, but cold night. It froze hard, the hail lay on the ground, and icicles hung from the trees. We busied ourselves with cutting branches, and gathering *paja* (a coarse grass with which the *paramo* is covered) to build a hut. We were here situated just on the 'divide.' The mountain-torrent below was flowing towards Guayaquil; all the other streams we had passed were running eastward. We were 7 leagues (about 4½ miles each) from Riobamba, and 8 or 9 from Guaranda, on the road to Guayaquil. The height is guessed at 14,000 feet, as I had no means for determination. We were within one league of the snow. We appeared to be above the range of the Gallinazos (*Cathartes*). Their place was taken by the Buïtres or Condors, one of which might be occasionally seen soaring above. Having procured specimens of the desired Humming-bird, I returned to Riobamba, with my eyes blood-shot, face blistered, and nose swollen, the usual effects of the wind at this altitude."

Owing to the blockade of Guayaquil by the Peruvians, Mr. Fraser has been unable to forward his latest collections.

Mr. Wallace's last letters to Mr. Stevens are dated "Batchian

October 29th, 1858." This island, which lies westward of the southern extremity of Gilolo, has not hitherto been much visited by naturalists. Mr. Wallace has made a great discovery here, which we hope may recompense him for his disappointments at Havre-Dorey. Who would have thought of a Paradise-bird, and moreover of a new form, being found so far away from the mainland of Papua? Yet such is the fact; a communication on this subject was made to the last Meeting of the Zoological Society*, and Mr. G. R. Gray has proposed to confer the title of *Paradisea* (*Semioptera*) *wallacii* on the new species. Mr. Wallace has lately forwarded a few bird-skins from Amboyna, among which are *Lorius ruber*, the true *Geoffroius personatus*, and *Halcyon lazuli* (Temm.). The collection made at Havre-Dorey has also just arrived, and contains some of the most splendid birds imaginable, all in the finest condition. Among the Parrots are a new *Charmosyna*, *Eos fuscata*, *Eclectus cardinalis*, *Lorius tricolor*, *Geoffroius pucherani* ♂ et ♀, *Cyclopsitta desmaresti*, and *Microglossa aterrima*. There are many rare types, and several new species, of which we are glad to say Mr. G. R. Gray has undertaken the task of description. From Havre-Dorey comes *Goura coronata*, while, according to Mr. Wallace's information, *Goura victoriæ* is from the island of Jobie†. Mr. Wallace's private collection, which Mr. Stevens has kindly allowed us to inspect, contains specimens of *Lorius superbus*, Fraser (P. Z. S. 1845, p. 16), from the islands of Mysor or Jobie; and *Eos cyanogenia*, Bp., from the Mafors Islands; thus giving precise habitats to these two little-known species. The more information we obtain about the birds of these and similar island-groups, the more examples we find of the occupancy of distinct geographic areas by representative species—one of the fundamental truths of the still imperfectly developed theory of the distribution of animal life upon the surface of our globe.

---

* "Zoological Society, Tuesday, March 22nd.—Mr. S. Stevens read an extract from a letter received by him from Mr. A. R. Wallace, dated 'Batchian, Moluccas, Oct. 29, 1858,' in which Mr. Wallace stated that he had the finest and most wonderful bird in the islands—a new Bird of Paradise, of a new genus, quite unlike anything yet known. Mr. Wallace enclosed a rough sketch of the bird. Mr. G. R. Gray having had the above sketch placed in his hands for examination and comparison with the other known species of *Paradisea*, agreed with Mr. Wallace that it is an entirely new form, differing from all its congeners, approaching most nearly to the King Bird of Paradise; but, in place of the lengthened caudal appendages, it has springing from the lesser covert of each wing two long shafts, each being webbed with white on each side at the apex. The possession of these peculiar winged standards induced Mr. G. R. Gray to propose the subgeneric name *Semioptera*; and he further added the provisional specific name of *wallacii*, in commemoration of the indefatigable energy Mr. Wallace had hitherto shown in the advancement of ornithological knowledge."—(*Literary Gazette*, March 26th.)

† See Mr. Wallace's letter in the 'Zoologist' for March last.

A communication from Mr. Blyth, dated Calcutta, February 8, 1859, informs us that one of the remarkable Pheasants (*Diardigallus fasciolatus*), mentioned above, was then still living in a private menagerie in Calcutta, and "in first-rate plumage—the tail very remarkable—a most gracile, elegant, and game-looking bird."

Mr. Blyth also mentions the arrival of some more birds from the Andaman Islands—*Hæmatornis cheela, Irena puella* (the Indian race), *Pericrocotus peregrinus*, and an *Oriolus*, probably of a new species. It is much smaller than *O. macrourus* of the Nicobars, with a very narrow nape-mark, only half as broad as in the Burmese *O. tenuirostris*, one-third as broad as in *O. indicus* and *O. macrourus*, and one-fourth as broad as in *O. chinensis*. A new typical *Sturnopastor*, also said to be from these islands, he proposes to call *S. niger*. It is "one-third smaller than *S. contra*, and all black, except a small whitish-grey patch on the centre of the belly, some white lunules on the rump, and some brightish yellow under the wing and orange naked skin round the eye." Mr. Blyth goes on to say, "The Burmese Kestrel is a very distinct new species, *Tinnunculus atratus*, nobis. I have long had one, but hesitated to describe it on one specimen only. I still want the adult male."

Prof. Baird, of Washington, is intending to reissue his General Report on N. American Birds, as a separate publication, in one volume 4to (1064 pp.), and with seventy-five plates of hitherto unfigured species. We understand that the first volume of Dr. Brewer's work on N. American Oology will also be ready very shortly. Mr. J. W. Audubon also announces the republication, by subscription, of his father's celebrated and gigantic work on the Birds of North America. It will be issued in forty-four Numbers, of ten plates each, at ten dollars per Number, so that the cost of the new work will only amount to half of that of the original. A copy of the first part may be seen at Messrs. Trübner's.

At Stevens's Auction-rooms, on April 2nd, a skin of the new Cassowary (*Casuarius bennettii*) was sold for £10 to a London dealer. This bird, which was shipped from Sydney for England in good health, was accidentally killed during the voyage. It has since, we are happy to say, passed into the collection of the British Museum. The arrival of a fresh pair of these same birds, which were sent off from Sydney in February last as a present to the Zoological Society by Dr. Bennett, may shortly be expected.

A sale of eggs obtained by Mr. Wolley's collectors in Lapland, chiefly in the year 1858, took place at the same Auction-rooms on March 8th. The three eggs that fetched the highest prices were those of the Smew (*Mergus albellus*)—out of the nest spoken of in Number I. of 'The Ibis'—£5 5*s.*; the Bar-tailed Godwit (*Limosa rufa*), £4 8*s.*; and the Buffon's Skua (*Lestris parasiticus*), £4. Of the latter egg, Mr. Wolley remarks, in a letter,—"This is a very difficult egg to get, because it seems doubtful whether the bird breeds at all upon the coast, though Richardson's Skua does so in plenty, all round the North Cape, and down the Russian coast." The eggs of the Waxwing (*Ampelis garrula*), of which there were nine in the sale, averaged about £3 each. The Pine-Grosbeaks' (*Strobilophaga enucleator*) sold for £2 2*s.* There were likewise in the catalogue eggs of the Spotted Redshank (*Totanus fuscus*), Lapp Owl (*Strix lapponica*), Siberian Jay (*Perisoreus infaustus*), Siberian Tit (*Parus sibiricus*), and the *Anser finmarchicus* of Gunner—all first discovered by Mr. Wolley.

THE IBIS.

No. III. JULY 1859.

XXIII.—*On the Ornithology of Central America.* Part III. By Philip Lutley Sclater and Osbert Salvin.

[Concluded from p. 138.]

Ordo II. ACCIPITRES.

Fam. I. VULTURIDÆ.

251. Cathartes aura (Linn.). (N. A.)

If Mr. Cassin's authority for the occurrence of *C. burrovianus* at Vera Cruz is good, that bird also doubtless occurs in Guatemala; but, as far as we know, it has not yet been observed. All the birds especially noticed by Salvin, presented the characters of the true *C. aura* of the U.S.

In this country this Vulture is not nearly so abundant as *C. atratus.* Leaving to that species all the duties of the scavenger, it frequents the more uncultivated and forest districts. A few may always be seen about the Lake of Dueñas.

252. Cathartes atratus (Bartram). (N. A.)

Except perhaps *Quiscalus macrurus*, this is the most familiar bird in Guatemala. Every town and village has its *Zopilotes*; and badly would the inhabitants exist were it not for these diligent scavengers. At night they usually retire to the forest, and in the early morning troop back to their posts in the streets and lanes, and about the tops of the houses and churches.

They build their nests in the forest, though, in Antigua Guatemala, it is said that they use the ruins of the old churches for that purpose.

253. Gyparchus papa (Linn.). (N. A.)

It is only on the coast-regions that the King Vulture is found; it does not extend its range into the central district. In the above localities it is frequently to be observed either soaring high in the air, and wheeling in circles during the heat of the day, or presiding over a putrid carcase, and driving off any presumptuous Black Vulture that may venture to approach within prescribed limits. Having eaten his fill, he sits in a tree hard by the carcase, sleeping and digesting his meal, while his late attendants fight and scramble for each disgusting morsel. The Spanish term for this bird is "el Rey Zopilote," exactly answering to our King Vulture.

Fam. II. FALCONIDÆ.

Subfam. Polyborinæ.

254. Polyborus tharus (Molina): Baird's Report, p. 45. (N. A.)

This bird is universal in its distribution throughout the country, and appears equally abundant everywhere. At Dueñas it is a constant resident, and breeds in the surrounding hills.

The food of this species consists principally of the ticks of animals.

255. Ibycter americanus (Bodd.): Pl. Enl. 417: *Falco aquilinus*, Gm.

In the Pacific coast-region this bird is found; and its extraordinary cry, well expressed by the word '*cacao*,' uttered with the first syllable reiterated several times, may not unfrequently be heard resounding through the dense tropical forest. It would appear to be confined to this region, since no examples have been as yet forwarded to this country through the instrumentality of Mr. Skinner or other hands. The species may be generally observed in pairs, seldom singly; but sometimes several occur together. The cry is made by the bird when sitting on a branch; and the tail is expanded with a jerk, on the utterance of each note.

Subfam. AQUILINÆ.

256. PANDION CAROLINENSIS (Gm.): Baird, Rep. p. 44. (N. A.)

Occurs abundantly on both the coast-regions; also particularly noticed about Belize, where it is said to breed.

257. HERPETOTHERES CACHINNANS (Linn.).

This species is not uncommon in the Atlantic coast-region, and about the village of Chimalapa it is even of frequent occurrence. Throughout the Pacific coast-region it would appear to be less numerous, as a single individual only was noticed near the hacienda 'La Grande.' It is known among the Spaniards by the name of the '*Guansi.*'

258. SPIZAËTUS ORNATUS (Daud.).

Numerous examples of this fine bird have been transmitted by Mr. Skinner from the Vera Paz, procured in Cajabon and other localities.

259. SPIZAËTUS TYRANNUS (Max.): Temm. Pl. Col. 75.

Likewise transmitted by Mr. Skinner, and now in the Norwich Museum.

260. SPIZAËTUS MELANOLEUCUS (Vieill.): Temm. Pl. Col. 79.

One example of this bird is also in the Norwich Museum. Transmitted by Mr. Skinner.

261. THRASAËTUS HARPYIA (Linn.).

Transmitted by Mr. Skinner from the Vera Paz. Many stories of the boldness of the Harpy, in its depredations on their pigs, are told by the Indians; but most of them with such evident exaggeration, that the truth is difficult to arrive at.

262. URUBITINGA ZONURA (Shaw). *Falco urubitinga*, Gm.: Sclater, P. Z. S. 1858, p. 128.

This bird is found throughout the whole country, on the Pacific, at Dueñas, and in the Vera Paz, from which latter district examples have been forwarded by Mr. Skinner. It would appear, however, to be an inhabitant of the hotter, rather than the temperate region, as its occurrence in the central district is not frequent.

263. Urubitinga anthracina (Nitzsch): Sclater, P. Z. S. 1858, p. 129.

Transmitted by Mr. Skinner. Two immature birds of this species were shot by Salvin at Punta Arenas, in the Gulf of Nicoya, on the Pacific coast of Costa Rica. The stomachs of both these birds contained fragments of small crustacea. Mr. Leyland obtained examples of this bird in the vicinity of Omoa.

264. Urubitinga —— ?

Several skins of a *Urubitinga* in an immature state of plumage have at different times been transmitted by Mr. Skinner. One of these, in the Norwich Museum, shows a few feathers indicating that the adult is of the usual dark colouring of this group. Until lately, Mr. Gurney referred it to the South American *U. schistacea*; but, on closer comparison, he now concludes that it differs specifically from that bird, and belongs to a species whose adult plumage is as yet unknown.

265. Urubitinga unicincta (Temm.): Pl. Col. 313. *Craxirex unicinctus*, Baird, Rep. p. 46. (N. A.)

In the Norwich Museum. Transmitted by Mr. Skinner.

266. Buteogallus nigricollis (Lath.): Strickl. Orn. Syn. p. 43.

About the forest-swamps of the low district in the neighbourhood of the village of Santana Mixtan, this species occurs. Here it is not uncommon, and may be seen sitting on a dead stump or branch of a tree, uttering occasionally its harsh monotonous cry. From the stomach of one shot in the above locality were taken the scales of some species of fish, which, with the strong smell of the claws, left no doubt as to the nature of its food.

Subfam. Buteoninæ.

267. Buteo insignatus, Cassin, B. of Cal. pp. 102 et 198, pl. 31. (N. A.)

We have Mr. Gurney's authority for ascribing a single specimen shot by Salvin at Dueñas to this curious species. It appears to be rare in that district as elsewhere, as no others were observed, and none of the collections forwarded by Mr. Skinner have contained examples.

268. **Buteo borealis** (Gm.). (N. A.)

This species seems to be generally and plentifully distributed; and numerous examples in all stages of plumage, from the young to the adult, have been transmitted by Mr. Skinner. It occurs also at Dueñas.

269. **Buteo harlani** (Aud.)? (N. A.)

A Buzzard, which Salvin refers to this species, was seen by him at Dueñas, but is by no means common. See Mr. Gurney's views on this bird in P. Z. S. 1857, p. 210.

270. **Buteo pennsylvanicus** (Wils.). (N. A.)

Transmitted by Mr. Skinner.

271. **Buteo zonocercus**, Sclater, P. Z. S. 1858, p. 130.

The only example known of this *Buteo* was transmitted from Guatemala by Mr. Skinner, and is now in the Norwich Museum.

272. **Buteo albonotatus**, Kaup, Isis, 1847, p. 399.

The southern slope of the Cordillera appears to be the true habitat of this species, but even here it cannot be said to be common. Like many of its class, it is a feeder on beetles and locusts.

273. **Buteo ghiesbreghtii**, Du Bus, Esq. Orn. pl. 1.

This magnificent species occurs not unfrequently throughout the Pacific coast-region, where it is well known to the natives. It appears to be confined to that district, as no examples have been procured by the many collectors that have traversed the corresponding region on the Atlantic.

274. **Asturina nitida** (Lath.): Temm. Pl. Col. 87 et 294.

Though abundant in the hot country on both coast-regions of the Republic of Guatemala, this bird does not occur in the temperate region. Its food consists of Lizards; and, as appears to be the case with all Hawks selecting such food, the flesh is very rank.

275. **Asturina magnirostris** (Gm.): Pl. Enl. 464.

Like the last, this bird is confined in its range to the hot coast regions, where it is abundant. Its food comprises small reptiles, centipedes and locusts.

276. Asturina brachyura (Vieill.). *Buteo brachyurus*, Vieill. Nouv. Dict. iv. p. 477; Pucheran, R. Z. 1850, p. 86. *Asturina albifrons*, Kaup, Isis, 1847, p. 200, et Contr. Orn. 1850, p. 67.

One specimen of this fine species, transmitted by Mr. Skinner, is now in the Norwich Museum.

Subfam. Accipitrinæ.

277. Geranospiza cœrulescens (Vieill.). *Sparvius cærulescens*, Vieill. Nouv. Dict. x. 318. *Falco gracilis* et *Falco hemidactylus*, Temm. Pl. Col. 91 et 3. *Ischnosceles niger*, Du Bus, Esq. Orn. pl. 16.

The best authorities now seem to be agreed that there is only one species of this form. As that occurs in Southern Mexico as well as in South America, there can be no doubt of its also being found in Guatemala.

278. Micrastur gilvicollis (Vieill.). *Sparvius gilvicollis*, Vieill. *Micrastur concentricus*, auct.

Transmitted by Mr. Skinner.

279. Micrastur ruficollis (Vieill.). *Sparvius ruficollis*, Vieill. *Falco xanthothorax*, Temm. Pl. Col. 92.

A skin of this bird received from Mr. Skinner is in Salvin's collection.

280. Micrastur semitorquatus (Vieill.). *Sparvius semitorquatus*, Vieill. *Falco brachypterus*, Temm. Pl. Col. 116, 141. *Falco percontator*, Cabot, Boston Journ. iv. 462.

Examples of this species have been transmitted by Mr. Skinner. Dr. Cabot observed it in Yucatan.

281. Accipiter fuscus (Gm.). (N. A.)

This species occurs rarely in the Pacific coast-region. Examples also have been transmitted from Vera Paz.

282. Accipiter erythrocnemis, Kaup, Jard. Contr. Orn. 1850, p. 64.

Transmitted by Mr. Skinner. *Nisus chionogaster*, Kaup (P. Z. S. 1851, p. 41), from Coban, is probably nothing more than this species.

Subfam. FALCONINÆ.

283. FALCO ANATUM, Bp. (N. A.)

A single example of this bird, in an immature state of plumage, was shot at Dueñas in February, 1858.

284. HYPOTRIORCHIS FEMORALIS (Temm.). *Falco femoralis*, Temm. Pl. Col. 121 et 343.

Transmitted by Mr. Skinner.

285. HYPOTRIORCHIS RUFIGULARIS (Daud.): Strickl. Orn. Syn. p. 88.

Transmitted by Mr. Skinner.

286. TINNUNCULUS SPARVERIUS (Linn.). (N. A.)

This is a very abundant species over the whole republic of Guatemala; but at Dueñas it is migratory, being a visitant there only during the winter months. The name applied to this species by the Spaniards is '*Klis-klis.*'

287. HARPAGUS BIDENTATUS (Lath.): Temm. Pl. Col. 38 et 228.

Transmitted by Mr. Skinner.

Subfam. MILVINÆ.

288. CYMINDIS CAYENNENSIS (Gm.).

The Norwich Museum contains an example of this species from Honduras. Mr. Leyland met with it in the S. Pedro Mountains.

289. CYMINDIS UNCINATUS (Temm.), Pl. Col. 103, 104 et 115.

Transmitted by Mr. Skinner.

290. ROSTRHAMUS SOCIABILIS (Vieill.).

Salvin ascribes the immense flights of hawks seen by him in the month of March in the Pacific coast-region, migrating in a north-westerly direction, to this species. The bird is well known to the Spaniards under the name of the '*Asacuani*;' and the term has become proverbial for a person who is constantly wandering from place to place. Mr. Leyland procured a single specimen of this bird near the Lake of Peten.

291. Elanus leucurus (Vieill.). (N. A.)
Transmitted by Mr. Skinner.

292. Ictinia plumbea (Vieill.). (N. A.)
The Norwich Museum contains an example of this species from Honduras.

293. Elanoides furcatus (Vieill.). (N. A.)
Examples from the neighbourhood of Cajabon have recently been forwarded by Mr. Skinner; one of these is in the immature plumage, and shows a white edging to the feathers of the wing-coverts. If accounts are correct, this bird is more numerous at Belize, where it is also said to breed.

Subfam. Circinæ.

294. Circus hudsonicus (Linn.). (N. A.)
This is a migratory species at Dueñas, and probably throughout the whole country. During the winter months two or three females, or immature birds, generally frequented the Lake, the adult males being much less commonly seen. It occurs in the Pacific coast-region; and examples have also been transmitted from the Vera Paz.

Fam. III. STRIGIDÆ.

295. Glaucidium infuscatum (Temm.). *Strix passerinoides,* Temm. Pl. Col. 344.
A single example of this little Owl was shot by Salvin near the village of Laguna, one day's journey from Guatemala. This species has frequently been included in the collections transmitted by Mr. Skinner.

296. Glaucidium jardinii, Bp. *Phalænopsis jardinii,* Bp. Compt. Rend. xli. 654 (?).
The Norwich Museum contains an Owl, transmitted by Mr. Skinner, which seems to belong to this species.

297. Scops m'callii, Cassin, Birds of Californ. p. 180 (?).
A specimen received from Mr. Skinner, in the Norwich Museum, seems to agree very well with the example of this bird from Mexico, as referred to in P. Z. S. 1858, p. 296.

298. Scops —— ?

Though a skin from Cajabon seems to present some features that might entitle it to be considered as a distinct species, yet so much obscurity exists with respect to these Owls, that to give new names tends only to increase the confusion. The species to which it is most nearly allied are *Scops usta,* Sclater, P. Z. S. 1858, p. 132, and *S. brasiliensis,* from the former of which it differs in having the ears less conspicuous, and in wanting the deep rufous tinge that pervades the whole plumage of that bird. It also has a light marking over the eye which is wanting in *S. usta.* From the latter it differs in its general tone of colouring, the breast being lighter and the back richer and more rufous. More examples will be necessary, to trace the changes of its plumage, before entering upon its claims to be held as a really distinct species.

299. Lophostrix stricklandi, Sclat. et Salv. *Scops cristata,* Daud., *var.,* Strickl., Contr. Orn. 1848, p. 60, pl. 10.

The late Mr. Strickland has, in his usual accurate manner, pointed out the characters which distinguish this Central American bird from its prototype of Cayenne. He was acquainted only with one example, from which his figure was taken. Mr. Skinner having lately transmitted three examples of this bird from the Vera Paz, all of which agree in the distinctions given by Mr. Strickland, we cannot avoid considering it as entitled to specific rank. The most obvious differences are the absence of the white on the forehead, the blackish ear-coverts, and the much more distinct markings on the wings in the present bird.

300. Syrnium nebulosum (Forster): Baird's Rep. p. 56. (N. A.)

The Norwich Museum contains examples of this Owl transmitted by Mr. Skinner from Cajabon, where it appears to breed, as one of the specimens is in the downy plumage of the young bird.

301. Syrnium virgatum, Cassin, P. Z. S. 1856, p. 285.

Numerous examples of this species have been transmitted by Mr. Skinner.

302. Syrnium perspicillatum (Lath.), Strickl. Orn. Syn. p. 193.

The hotel-keeper at Escuintla had in June last a bird in the immature plumage of this species; and the collection of Don Vicente Constancia in Antigua Guatemala contains a similar one.

303. Strix pratincola, Bp., Strickl. Orn. Syn. p. 179. (N.A.) Transmitted by Mr. Skinner.

Ordo III. COLUMBÆ.

Fam. COLUMBIDÆ.

304. Columba rufina, Temm. Pig. t. 24; Bp. Consp. ii. p. 52.

Three or four Pigeons were seen on the banks in the trees, when ascending the Rio Dulce in the middle of December. One only was secured, which proved to be a female of this species in very fine plumage. We are not aware that its occurrence so far north has been previously noticed.

305. Columba leucocephala, Linn.

Inhabits the Keys, or small islands, on the coast of Honduras (Leyland).

306. Columba speciosa, Gm.

Near Lake Peten (Leyland).

307. Leptoptila albifrons, Bp. Consp. ii. p. 74. *Peristera brachyptera*, Gray, MS.

This is a very abundant species at Dueñas, where it is seen under or in the lower parts of the trees. It occurs generally in pairs, and is resident all the year.

308. Peristera cinerea (Temm.).

Omoa (Leyland).

309. Zenaidura carolinensis (Linn.): Bp. Consp. ii. p. 84. (N. A.)

Also very abundant about Dueñas, but inhabits the open districts. It usually congregates in flocks, and is resident.

310. Scardafella inca, Bp.

Found in flocks with *Chamæpelia rufipennis,* near S. Pedro and Peten, Honduras (Leyland).

311. Zenaida leucoptera (Linn.): Bp. Consp. p. 81. (N. A.)

Omoa (Leyland). One of the common Doves about Dueñas in April and May. It is found on the ground in the open savannahs.

312. Chamæpelia rufipennis, Bp. Consp. ii. p. 359: P. Z. S. 1858, p. 359.

Obtained by Capt. Taylor at Comayagua, Honduras.

313. Chamæpelia passerina (Linn.).

This is one of the most familiar birds of the central region, where it is the only small Ground-dove found. In the coast-regions its place is supplied by two other species at least. At Dueñas it is abundant, residing all the year, and breeding in the cochineal-plantations, where it deposits its eggs, two in number, on the ground under the rows of 'Nopal.'

The Spanish name for this species is 'Tortolita.'

Ordo V. GALLINÆ.

Fam. I. CRACIDÆ.

Subfam. Cracinæ.

314. Crax alector, Linn.

In the forests of both coast-regions this species occurs, though somewhat sparingly. It is usually seen in the early morning, or in the evening, perched on a branch of a tree, where it rests, looking at a passer-by with a vacant rather than an alarmed expression. When thus found, a sportsman may approach in the most open manner to within gun-shot. To the Spaniards it is known as the '*Pahuil,*' and to the mahogany-cutters of Belize as the '*Curassow.*'

Subfam. Penelopinæ.

315. Penelope purpurascens, Wagler.

This bird frequents the same localities as *Crax alector*; and the habits of the two closely resemble each other; but *P. purpu-*

rascens is much more numerous, and occurs abundantly in many parts. It is said to build in trees. The Spanish name is '*Pavo,*' which is translated as '*Turkey*' by some, and '*Peacock*' by other writers on Central America.

316 PENELOPE NIGRA, Fraser, P. Z. S. 1850, p. 246, pl. xxix. In the British Museum. Transmitted by Mr. Skinner.

317. ORTALIDA VETULA (Wagler). *Penelope vetula,* Wagl. Isis, 1830, p. 1112; Moore in P. Z. S. 1859, p. 62.

Transmitted by Mr. Skinner. In Sir William Jardine's collection. Birds of this genus are common in both the coast-regions, and known by the name of '*Chacha.*' They inhabit the forests, and are always seen on the trees.

318. ORTALIDA LEUCOGASTRA (Gould). *Penelope albiventer,* Less. Rev. Zool. 1842, p. 174 (nec Wagl.). *Penelope leucogastra,* Gould, P. Z. S. 1843, p. 105; Gould, Voy. Sulphur, Zool. p. 48, pl. xxxi.

This Guan is very abundant in the Pacific coast-region, where, in the neighbourhood of the more remote and smaller villages, the woods in the early morning resound with its loud continued cries. Like *Penelope purpurascens,* it is usually seen in trees, and shows little symptom of alarm on one approaching. The time of breeding seems to extend over some period, as young birds and fresh eggs were observed simultaneously in the month of March. The former appear to run almost immediately on becoming free from the shell, and, clinging to the branches of the underwood, are nimble in eluding capture. The nest is usually placed in a low bush, and is composed entirely of small twigs. The eggs, two in number, are of rough texture, and in colour pure creamy-white; they measure, axis 1·25 in., diam. 1·5 in.

Subfam. OREOPHASIDINÆ.

319. OREOPHASIS DERBIANUS, Gray & Mitch. Gen. of Birds, pl. 121: *O. fronticornis,* V. d. Hoeven.

This bird, one of the most curious as well as the most interesting in Central America, is extremely rare, and its range, as far as is at present known, circumscribed within very narrow limits. The single volcanic peak 'el Volcan de Fuego' is generally said to be its sole "habitat," though there is strong reason to believe that the specimens procured by Mr. Skinner were obtained from the neighbouring mountain, 'el Volcan de Agua.' From careful inquiries made at Dueñas of Indians who were acquainted with the bird, it would appear that the belt of forest which encircles each of these volcanos between the elevations of 7000 and 11,000 feet above the sea-level is its natural home, where it is constantly resident. The characteristic tree of this forest-region is the celebrated Hand-plant of the Mexicans (*Chirostemon platanoïdes*)—'la Mano del Mico' (the Monkey's Hand) of the Spaniards, which there grows luxuriantly. Whether or not the *Oreophasis* occurs in the volcanos of Atitlan and the Altos, remains yet to be investigated; but, as all these and also the smaller cone of Pacaya present corresponding physical features to those of Agua and Fuego, it is not at all improbable that it may also be found in these mountains.

There appears to be no distinctive name for this bird; among the natives, however, it is known as the Turkey with the red head ('el Pavo con la cabeza colorada').

Fam. II. PHASIANIDÆ.

320. Meleagris ocellata, Temm. Pl. Col. 112.

This Turkey seems entirely confined in its range to the country included between the base of the Great Cordillera and the Atlantic, of which the promontory of Yucatan occupies the greater portion. From all accounts, the little-known district, of which the Lake of Peten forms the chief feature, is its head-quarters; and there it would appear to be of not unfrequent occurrence. It seems almost unknown to the natives of the Republic of Guatemala; but the inhabitants of Belize, who have connection with the mahogany-cuttings, have more or less information respecting it. The Spanish name is 'Pavo real,' or, more properly, 'Pavo real del monte' (Wild Turkey).

Fam. III. PERDICIDÆ.

321. Ortyx nigrigularis, Gould, Mon. Odont. pl. 4.

Yucatan (Cabot): pine-ridges of Belize (Leyland).

322. Ortyx leylandi, Moore, P. Z. S. 1859, p. 62.
Honduras between Omoa and Comayagua (Leyland).

323. Cyrtonyx ocellatus, Gould, Mon. Odont. pl. 8.
Guatemala (Gould).

324. Dendrortyx leucophrys, Gould, Mon. Odont. pl. 21.
Received direct from Coban (Gould).

325. Odontophorus guttatus, Gould, Mon. Odont. pl. 28.
Obtained by Mr. Dyson in the Coban palm-ridges, and in Yucatan.

Fam. IV. TINAMIDÆ.

326. Tinamus major, Gm. ? : Moore, P. Z. S. 1859, p. 63.
Belize and Omoa (Leyland).

327. Tinamus cinnamomeus (Less.) : R. Z. 1842, p. 210.
Vicinity of La Union, S. Salvador (Lesson).

Ordo VI. GRALLÆ.

Fam. I. ARDEIDÆ.

328. Garzetta candidissima (Gm.) : Baird, Rep. p. 665. (N. A.)
Common on the Atlantic coast, and sometimes visits the Lake of Dueñas. Generally seen in companies.

329. Herodias egretta (Gm.) : Baird, Rep. p. 666. (N. A.)
Also common, but more solitary in its habits, both on the Pacific and Atlantic coasts.

330. Ardea herodias (Linn.). (N. A.)
Occurs at Dueñas; seen fishing in the river Guacalate.

331. Florida cærulea (Linn.) : Baird, Rep. p. 671 ; P. Z. S. 1859, p. 63. (N. A.)
Specimens transmitted by Mr. Skinner are labelled "Coban." Leyland found it common near Omoa.

332. Tigrisoma tigrinum (Gm.).
Obtained at Tigré Island, on the Pacific coast of Honduras, by Mr. G. C. Taylor.

333. Butorides virescens (Linn.). (N. A.)

Quite common on all the rivers on the coast among the mangrove swamps.

334. Nycticorax gardeni (Gm.). (N. A.)

A young bird of this species has been transmitted by Mr. Skinner. Omoa and Peten (Leyland).

Fam. II. ARAMIDÆ.

335. Aramus holostictus (Cab.), Journ. f. Orn. 1856, p. 426. *A. scolopaceus*?, Moore, P. Z. S. 1859, p. 64.

Belize and Omoa (Leyland).

Fam. III. CANCROMIDÆ.

336. Cancroma cochlearia, Linn.

Occurs in the forest-swamps on the Pacific coast not uncommonly. Skins have also been transmitted by Mr. Skinner from the Atlantic coast-region.

Fam. IV. EURYPYGIDÆ.

337. Eurypyga helias (Pall.).

Mr. Skinner has transmitted skins of this bird, which seem quite identical with S. American specimens.

Fam. V. TANTALIDÆ.

338. Tantalus loculator, Linn. (N. A.)

This bird is not uncommonly seen about the large rivers in the forests of the Pacific coast-region. It is known by the Spanish name '*Acatras*.'

Fam. VI. CHARADRIIDÆ.

339. Charadrius virginicus, Borck. (N. A.)

About the second week in April, a few of these birds made their appearance at Dueñas in the open pasture land. They were always found in company with a flock of Bartram's Sandpiper.

340. Ægialitis vociferus (Linn.). (N. A.)

During the winter months a flock of these Plovers frequent the open land near Dueñas, sometimes feeding in the Cochineal plantations between the rows of Nopal. Omoa (Leyland).

341. Hoplopterus cayanus (Lath.): Moore in P. Z. S. 1859, p. 63.

Honduras (Leyland).

Fam. VII. HÆMATOPODIDÆ.

342. Hæmatopus palliatus, Temm. (N. A.)

Oyster-catchers were seen at the mouth of the Nagualate on the Pacific, probably referable to this species.

Fam. VIII. RECURVIROSTRIDÆ.

343. Himantopus nigricollis, Vieill. (N. A.)

A specimen of this bird is in the collection of Don Vicente Constancia of La Antigua Guatemala; procured near the modern city.

Fam. IX. SCOLOPACIDÆ.

344. Gallinago* —— ? ——

This seems to be the common Snipe of Guatemala, and, like the rest of its genus, frequents the swampy spots, and especially the pools formed during the rainy season. It is very abundant in the months of October and November about the plateau on which the city of Guatemala stands. At Dueñas it occurs in considerable numbers in February and March, about the narrow belt of swampy land that surrounds the lake on nearly all sides. When put up, they seldom fly far, but alight again 50 or 100 yards off. They are by no means shy, but admit of one approaching to within easy shooting-distance before taking wing.

On excellent authority it is stated that in this same locality there occurs, but very rarely, a dark-coloured Snipe resembling the present bird in all respects but colour. Can this be the *G. sabini* of this species?

345. Gallinago wilsoni, Bp.: Moore, P. Z. S. 1859, p. 64. (N. A.)

Common at Omoa (Leyland).

---

* We have not yet been able to identify this Snipe, which appears certainly distinct from *G. wilsoni*.

346. Tringa maculata, Vieill.: Baird's Rep. p. 720. (N. A.)

About the beginning of April, and towards the end of the dry season, a great part of the stream is diverted from the river Guacalate, and thrown on the open pasture-land near Dueñas. During this period numbers of *Scolopacidæ* frequent the inundated part, of which *Tringa maculata* is the most abundant. At this season this bird, taking its food from fresh water, proves excellent eating.

347. Tringa wilsonii, Nuttall: Baird's Rep. p. 721. (N. A.)

About the mouth of the river Nagualate, on the shore of the Pacific, this bird occurs in some numbers in the month of March.

348. Calidris arenaria (Linn.). (N. A.)

Like the last, occurs on the Pacific, where it is abundant in some parts.

349. Ereunetes petrificatus, Ill. *Tringa semipalmata*, Wils.: Baird's Rep. p. 724. (N. A.)

A single bird of this species was shot near Dueñas in the month of April, from amongst a flock of *Tringa pectoralis*.

350. Micropalama himantopus (Bp.): Baird's Rep. p. 726. (N. A.)

One individual, the only one seen, was shot, like the last, from amongst a flock of *Tringa pectoralis* in April.

351. Gambetta melanoleuca (Gm.): Baird's Rep. p. 731. (N. A.)

This species seems more solitary in its habits than many of the other Sandpipers. Seldom more than one individual is seen at once; it also prefers the lake-sides to the marshy resort of the other species.

352. Gambetta flavipes (Gm.): Baird's Rep. p. 732. (N. A.)

A small flock of these birds used to be in company with the *Tringa pectoralis* at Dueñas during the early part of the month of April.

353. Rhyacophilus solitarius (Wils.): Baird's Rep. p. 733. (N. A.)

Transmitted by Mr. Skinner.

354. Tringoïdes macularius (Linn.): Baird's Rep. p. 735. (N. A.)

About most of the rivers this species is to be met with during the winter months; but they are principally in the unspotted, immature state of plumage. Their range is wide, and includes both the table-land and the coast country.

355. Limosa fedoa (Linn.): Baird's Rep. p. 740; P. Z. S. 1859, p. 64. (N. A.)

Common at Belize, according to Leyland.

356. Actiturus bartramius (Wils.): Baird's Rep. p. 737. (N. A.)

A flock consisting of about eighteen or twenty members arrive about the beginning of April at Dueñas. There seeking the dry open savannahs rather than the marshy pools, they fully justify the appellation of the Field-Plover. To the *Charadriidæ* their actions and habits closely assimilate them.

Fam. X. RALLIDÆ.

Subfam. Rallinæ.

357. Porzana carolina (Linn.): Baird, Rep. p. 749. (N. A.)

This Rail is the only one occurring about the Lake of Dueñas, where it would appear to be migratory, leaving that district on the approach of summer.

Mr. Skinner has also transmitted specimens from the Vera Paz.

358. Corethrura cayennensis, Gm. (?): Moore, P. Z. S. 1859, p. 64.

Omoa (Leyland).

359. Aramides cayennensis (Gm.): Moore, P. Z. S. 1859, p. 64.

Omoa; not common (Leyland).

Subfam. Fulicinæ.

360. Porphyrio martinica, Linn.: Moore, P. Z. S. 1859, p. 64; Baird, Rep. p. 753. (N. A.)

Lagoons near Peten (Leyland).

361. Fulica americana (Gm.): Baird, Rep. p. 751. (N.A.)

Transmitted by Mr. Skinner. Coots are abundant on the

Lake of Dueñas; but, as specimens have not been collected, they cannot be referred with certainty to this species.

Subfam. PARRINÆ.

362. **PARRA GYMNOSTOMA**, Wagler. *Parra cordifera*, Less.: Des Murs, Icon. Orn. pl. 42.

Very common at Belize and Peten; less so at Omoa (Leyland). Observed by Salvin in the Pacific coast-region near Santana Mixtan, and obtained by Capt. C. L. Wyke on the Lake of Amatitlan in the central region.

Ordo VII. ANSERES.

Fam. I. ANATIDÆ.

363. **DENDROCYGNA AUTUMNALIS** (Linn.): Baird, Rep. p. 770. (N. A.)

Shot by Mr. G. C. Taylor on the Lake of Yojoa, Honduras.

364. **DAFILA ACUTA** (Linn.): Baird, Rep. p. 776. (N. A.)

Seen at Belize in December, and common, during the winter, on the Lake of Dueñas. It departs northward in March.

365. **QUERQUEDULA CAROLINENSIS** (Gm.): Baird, Rep. p. 777. (N. A.)

Aloor River, Honduras (Leyland).

366. **QUERQUEDULA DISCORS** (Linn.): Baird, Rep. p. 779. (N. A.)

Common in winter on the Lake of Dueñas, but disappears in March. Also seen at Santana Mixtan, Pacific coast-region.

367. **SPATULA CLYPEATA** (Linn.): Baird, Rep. p. 781. (N. A.)

Like the two preceding, inhabits the Lake of Dueñas during the winter, and departs towards the end of March.

368. **MARECA AMERICANA** (Gm.): Baird, Rep. p. 783. (N. A.)

Common on the Lake of Atitlan, where it was seen in May 1858, and also observed near the village of Laguna, about a day's journey from Guatemala.

369. **FULIGULA AFFINIS**, Eyton: Baird, Rep. p. 791. (N. A.)

Excessively abundant on the Lake of Dueñas in the winter months, and seen on the Lake Atitlan as late as the month of May.

370. Cairina moschata (Linn.).

All the domestic varieties in Central America seem to derive their origin from this species. It is found abundantly on both coasts, frequenting the forest swamps. At Belize it is a well-known bird, as the nature of that district is well adapted to its habits. In the Pacific coast-region it is more local, as the swamps are much more limited, and are of comparatively small extent. The bird is more frequently seen sitting on a branch of a tree than in any other position. During the day-time it remains in the forest; but towards evening it seeks the fields of maize, and many may be seen sitting about the surrounding trees, the flock at a distance looking like a troop of Black Vultures (*Cathartes atratus*). Though shy and by no means easy of approach, a sportsman has no difficulty in obtaining two or three birds between sun-down and dark, by hiding up amongst the trees and shooting as the birds fly round over head. The flesh is excellent and very tender. This bird is said to breed in December.

371. Erismatura rubida (Wils.): Baird, Rep. p. 811. (N. A.)

On the Lake of Dueñas this is the only resident species of Duck. Its numbers diminish during the period of the spring migration, the immature birds at that time probably seeking other quarters. It is a bird more easily procured than any of the other ducks frequenting the lake, as its powers of flight render its escape less easy. Not but that it flies as well as any other when once fairly started; but it finds difficulty in rising from off the water, so much so, that, by sailing down wind towards a bird, it usually admits of approach to within easy shooting-distance. Sometimes, however, it seeks safety by diving; and when such is the case, its powers in this respect are so great that escape is almost certain to ensue. It builds in May, amongst the reeds on the margin of the lake, making a nest of the dead flag with a little down. The eggs are, as might be expected, by analogy with those of the European *Erismatura mersa*, rough in texture, but perhaps hardly in such a degree as the eggs of that species. They are of a dirty creamy-white colour, and measure, axis 2 inches 4½ lines, diam. 1 inch 10 lines; but are sometimes rather more elongated, as others measure, axis 2 inches 7 lines, diam. 1 inch 9½ lines.

Fam. II. LARIDÆ.

372. CHROICOCEPHALUS ATRICILLA (Linn.): Baird's Rep. p. 850. (N. A.)

Common about Belize, and said to breed in the Keys along the coast.

373. ANOUS STOLIDUS (Linn.): Baird, Rep. p. 864. (N. A.)

Observed on the Pacific coast.

Fam. III. PELECANIDÆ.

374. PELECANUS ERYTHRORHYNCHUS (Gm.): Baird, Rep. p. 868. (N. A.)

Transmitted by Mr. Skinner, having been obtained on the Pacific coast.

375. PELECANUS FUSCUS (Linn.): Baird, Rep. p. 870. (N. A.)

Seen on the Atlantic coast, and found breeding by Mr. G. C. Taylor in the Bay of Fonseca, on the Pacific.

376. PHALACROCORAX MEXICANUS (Brandt): Baird, Rep. p. 879. (N. A.)

Lake of Peten (Leyland).

377. SULA FIBER (Linn.): Baird, Rep. p. 872. (N. A.)

One of these birds came on board the steamer, off the coast of San Salvador.

Fam. IV. PLOTIDÆ.

378. PLOTUS ANHINGA, Linn.: Baird, Rep. p. 883. (N. A.)

Found at Lake Peten, by Leyland.

Fam. V. TACHYPETIDÆ.

379. TACHYPETES AQUILA (Linn.): Baird, Rep. p. 873. (N. A.)

Observed on both coasts. Mr. G. C. Taylor obtained eggs of this bird in the Bay of Fonseca in 1858. See P. Z. S. 1858, p. 318, and 'Ibis,' No. II. (*anteà*, p. 150).

Fam. VI. COLYMBIDÆ.

380. Podilymbus podiceps (Linn.). (N. A.)

This is a resident species at Dueñas. It breeds in May, making a nest amongst the reeds of the lake, consisting of a pile of flags heaped up so as just to raise the edge of the structure above the surface. The eggs are generally half-immersed. They are from two to four in number, and are of a chalky exterior on an under surface of bluish green; they measure, axis 1 inch $6\frac{1}{2}$ lines, diam. 1 inch 1 line.

381. Podiceps —— ?

A small Grebe is common on the Lake of Dueñas; but specimens have not yet been obtained. Its general appearance and habits are much the same as in the European *P. minor*, but it is smaller in size.

Fam. VII. HELIORNITHIDÆ.

382. Heliornis fulica, Bodd.

Inhabits the Pacific coast, being found in the submerged swamps underneath the trees. The only specimen obtained was swimming in the water, near the village of Santana Mixtan.

In concluding our list, we beg to acknowledge the assistance we have received from Mr. Gould in determining the *Trochilidæ*, and from Mr. Gurney in making out the species of *Accipitres*. Although we have enumerated 382 birds as occurring in Central America, the catalogue is still in many particulars very incomplete, and we have no doubt that future researches will make great additions to it.

XXIV.—*List of a Collection of Birds from the colony of Natal in South-eastern Africa.* By J. H. Gurney, M.P., F.Z.S.

(Plate VII.)

The following is a list of a series of Birds of Prey, Goatsuckers, Kingfishers, Cuckoos, and Water-birds recently received by me from the colony of Natal, to which I have added the names of a few species belonging to the same groups from two other collections made in the same country.

With a few exceptions, they have been forwarded to me by Mr. Thomas Ayres, of D'Urban, whom I have pleasure in recommending to the readers of 'The Ibis' as a zealous collector of specimens and of information, and who has the additional merit of sending his skins over in excellent order and at very reasonable prices.

Mr. Ayres has sent me notes respecting most of the birds in the following list. I have inserted the substance of his observations, after the names of the species to which they refer. In some cases I have added a few remarks of my own, which are distinguished by brackets and initials.

Catton Hall, Norwich, March 1859.

1. Vultur occipitalis (Burch.). Occipital Vulture.

Male. Bill blood-red, black at the tip and light blue at the base; skin round the eye and nostril light blue; eye light brown; skin of neck the colour of lilac. These birds are much more rare here than the other kinds of Vultures, only going in pairs, and generally coming to feed when the other kinds of Vultures are not present; they are exceedingly shy and wary. This is the only one we have been able to shoot.

2. Otogyps auricularis (Daud.). Sociable Vulture.

Male. Eye very dark brown; skin of the neck, feet and legs pale or flesh-colour. Appears invariably with the large Grey Vulture (*Gyps fulvus*); he is more wary and difficult to get than the Grey. About a month ago, I saw Vultures congregating at a certain spot well-sheltered by bush, so I ran at once to get a shot; after creeping on my hands and knees, that I might not be seen by the birds, through a very thick bush, I got within thirty yards of them. I could see nothing of the beast they were devouring; there were so many of the Black and Grey Vultures (*Otogyps auricularis* and *Gyps fulvus*), that they completely covered the poor beast, which was being torn to pieces by inches; but he appeared to be in the most fearful agony: the loud bellowings, deep breathings, and struggles of the poor ox to escape his tormentors, accompanied with the loud hisses and cacklings of the birds, were sickening to hear. I hastened to fire my first barrel, which brought down only one bird; and then hastily crept out from my cover, for the purpose of despatching the ox with my second, when behold nothing but a skeleton was before me!—the whole of the noises were made by the birds themselves. I never was more astonished in my life. No one would credit the power of lungs these birds have. As for the struggles of the ox, it must have been the noise of their wings, as they were in one mass, tearing and fighting and struggling together, some fifty of them. It was a wild sight, and well worth the seeing.

3. NEOPHRON PERCNOPTERUS (Linn.). Egyptian Vulture.

Male. Eye reddish brown; skin round the eye and neck bright yellow; legs pale. This is a very rare bird here, and we know next to nothing of its habits. In its stomach we found bits of bone from one to two inches long, and carrion, apparently parts of the blade-bone of an ox. We have never seen these birds with the other Vultures, but they seem to eat the same kind of food. This specimen appeared to be hunting for his food, flying about, and frequently alighting.

4. NEOPHRON PILEATUS (Burch.). Pileated Vulture.

Eye small and dark brown; skin round the eye and neck flesh-colour; legs dark. Not so shy as the large Vultures; frequently alight on trees, which I have not seen the large Vultures do; feed on carrion. I have seen but few of them.

5. GYPS FULVUS (Gmel.). Fulvous Griffon Vulture.

These birds are gregarious; they gather together in great numbers when any animal dies, to devour it, and will sail in company for a length of time; they are exceedingly wary and cunning, circling round and round in the air for hours before they alight, always reconnoitring the ground well. I have been told by a friend, that these birds, when a number are collected together, after having eaten the flesh from one side of a bullock, will all pull together and turn the carcase over, to eat the flesh from the other side. The Caffres say that, when short of food, these birds will eat the young shoots and leaves of grass; and there certainly were a few blades in the stomachs of the two specimens sent. Iris light brown.

6. Sagittarius secretarius (Scop.). Secretary Bird.

Male. Eye very light brown; legs pinkish white. Rare about D'Urban, and exceedingly shy; stalk about when feeding like the Bustards. The stomach of the specimen sent contained rats, locusts, lizards, and small snakes. The Secretary also feeds on moles.

7. Polyboroides radiatus (Scop.). Rayed Gymnogene.

Very small dark eye, iris nearly black; cere, skin round the eyes, and legs bright light yellow; bill black.

This bird principally frequents places where the grass has been burnt, stalking over the ground like the Bustard, and picking up insects, which seem to be its chief food. The stomach of one specimen sent contained the remains of a blue-headed lizard. It does not take long flights. The legs of this bird bend backwards at the knee in an extraordinary manner, very much as if they were out of joint; whether the bird can bend them back at pleasure, I cannot say.

[Mr. Ayres's note of the colour of the iris in this species (which was also verified by a drawing which he sent me) is important, as both Dr. A. Smith and Dr. Hartlaub describe the iris of this bird as yellow.

The West African specimens sent to me by Mrs. Hinderer are stated to have had a "bright purple" tint in the eye, which has not been noticed by Mr. Ayres.

The late Dr. R. Vierthaler, who met with this species in Sennaar, says that the cere and cheeks of the immature bird are red, but that the red fades immediately after death (*vide* 'Naumannia' for 1852). A slight tinge of red is sometimes traceable on these parts in the skins even of adult specimens, when first damped for mounting.

The peculiarity of the position of the tarsus alluded to by Mr. Ayres was also mentioned to me some years since by M. Jules Verreaux, from whose description, I should suppose it to be only occasionally assumed at the will of the bird; be this as it may, the mechanism by which so curious a result is produced would seem to be well worthy the attention of the anatomist, which, as far as I know, has not hitherto been directed to it.—J. H. G.]

8. Helotarsus ecaudatus (Daud.). Short-tailed Bateleur.

In the immature bird, the eye is brownish-yellow; legs and feet dull white; bill dull green, but black at the tip; cere light green. These birds feed upon carrion, appearing with the Vultures; they also prey upon moles. They settle in trees, and erect the crest when wounded; they are rare, and extremely shy.

9. Circaëtus thoracicus (Cuv.). Black-breasted Harrier-Eagle.

Not rare, but excessively wild, and generally soar about at a great height, far out of shot. The stomach of the specimen sent contained a chameleon and a green-headed lizard, both swallowed whole; it also feeds on snakes, both poisonous and innocuous. Iris yellow.

10. Spizaëtus occipitalis (Daud.). Occipital Hawk-Eagle.

Common: feed entirely on field rats and mice, which they swallow whole; watch from a tree for their prey. The crest is always erected when the bird is stationary, but lies flat on the head when it is flying. These birds on bright still days frequently soar to a great height, wheeling round and round and uttering their shrill cries; they are comparatively tame. Iris yellow.

11. Aquila nævioides (Cuv.). Tawny Eagle.

Rare. Iris light brown; feet and cere light yellow; bill blue, but black at the tip. The Caffres assert that these birds carry off kids and the young of the antelopes; they also feed on carrion, which I believe is their principal food. One specimen sent was shot whilst chasing a hawk that was carrying off a fowl on which it had pounced, and which the eagle appeared to covet.

12. Haliaëtus vocifer. Vociferous Sea-Eagle.

Eye very light brown; skin round the eye and nostril light yellow; legs and feet dull white. These fine birds frequent the bays and lakes along the coast, feeding principally on fish, which they catch alive, by pouncing suddenly upon them when in shallow water; they then carry their prey to a tree to devour it, holding it fast by one foot while they tear it in pieces. These Eagles also capture ducks, or other wild fowl, that have been previously wounded, and are often seen inland many miles from the coast, where they feed with the Vultures on the carcases of cattle, carrying away large lumps of flesh, and eating them on some adjacent tree. They soar to a tremendous height, uttering a very shrill piercing cry, which may be heard at a great distance; and will sit for hours on the dead branch of a tree near the water, waiting for the tide to recede far enough to enable them to take their prey; they also frequently alight on the water like gulls, and remain for a length of time on it; but I cannot say whether they are expert swimmers or not.

[The immature birds of *Haliaëtus vocifer* differ considerably in the colouring of their plumage and in the disposition of its markings. I believe that it is a young male of this species which is figured and described in Le Vaillant's 'Oiseaux d'Afrique,' No. 5, under the title of "*Le Blagre*," and that it is an error to quote "*Le Blagre* of Le Vaillant" as a synonym of *Haliaëtus leucogaster*, to which it is by some authors referred. —J. H. G.]

13. PANDION HALIAËTUS (Linn.). Osprey.

These birds frequent the salt-water lakes along the coast; they alight on trees near the water, and will also frequently settle on the sands when the tide is down, and remain in the same spot for an hour or two. They generally hover two or three seconds over a fish before they plunge into the water after it, and very frequently miss their aim. When they have caught a fish, they fly to a tree to eat it at leisure. They are very shy birds, and difficult to obtain. Iris light yellow; legs bluish slate-colour.

14. MILVUS PARASITUS (Daud.). White-billed Kite.

Common and bold. They take our chickens, feed also on rats or any carrion; and I have sometimes found insects in their stomachs.

These Kites seem to have a very acute sense of smell; for they invariably appear with or before the Vultures, to feed on any ox that may have died, and will (when afraid to settle, in consequence of the ravens or other birds) dart down and tear off pieces of flesh with their talons, and devour them whilst flying, after which they will return and take more in a similar manner.

They generally come here in September, and leave again in March or April. Iris brown.

15. Elanus melanopterus (Daud.). Black-winged Elanus.

Rare. Iris orange. The Caffres assert that it chases pigeons and catches them on the wing. This bird is frequently unsteady in its flight, and its appearance then much resembles that of a small sea-gull. It takes its prey (which consists principally of rats) much in the same way as *Tinnunculus rupicolus*. They are generally to be found in the open country, alighting on the tops of low trees scattered over the "Veldt."

16. Pernis apivorus (Linn.). Honey Pern.

Very rare. The stomach of the specimen sent was filled with a peculiar kind of wasp. Iris bright yellow; legs also yellow.

[The example sent, an adult male, is the only instance which has come to my knowledge of the occurrence of this species south of the equator.—J. H. G.]

17. Avicida cuculoides (Sw.). African Pern.

Frequents the dense bush, and is extremely shy. When it first leaves the nest, the iris is a very light brown, but subsequently becomes of a bright lemon-yellow; the legs are light yellow.

18. Tinnunculus rupicolus (Daud.). Rock Kestrel.

Neither rare nor shy; preys on small birds and rats, which it hunts on the wing, hovering over the high grass, remaining many seconds stationary in the air. It chases the *Milvus parasitus* and other large birds away from its station, attacking them with great spirit, rising above them and then darting down on their backs. It builds its nest on the sides of precipices in the clefts.

19. Buteo jakal (Daud.). Jackal Buzzard.

Shy, but not rare. They feed on insects (principally black crickets and grasshoppers) and also on rats and birds. They frequently select a tree which stands alone, on the top of which they perch, watching for their prey, which they take on the ground generally within a radius of fifty or sixty yards, sometimes running on the ground a considerable distance with great swiftness. They roost at night for a length of time on the same tree, taking the same route each evening; they also hunt over a piece of ground, flying a short distance, then hovering, then flying a short distance again. Iris dark brown in adult, lighter in immature specimens.

20. Astur melanoleucus (Smith). Black and White Goshawk.

Rather rare. A very bold bird when pursuing its prey. It has frequently chased our pigeons under the verandah of our house. When this hawk appears, the pigeons seem perfectly aware of their danger; they fly from home, taking a large circuit and ascending as quickly as they can till nearly out of sight. The hawk follows them, and, having much greater power of endurance, gradually gains the ascendency, when its tactics are immediately changed. It still pursues them, but, as they wheel round, cuts off the angles and so gains on its prey, which it otherwise would not do. The pigeon is certain to be caught unless it flies straight home or into some thick bush, when the hawk will not follow.

Though exceedingly shy, these birds fear neither guns nor shouting when pursuing their prey, and even when struck with shot, if not severely wounded, still continue the chase. They always catch their prey on the wing. Iris light yellow.

21. Accipiter tachiro (Daud.). Tachiro Hawk.

Iris dark greenish-brown; cere dark green; bill black, but blue at the base; legs yellow, but with a dark tinge on the upper part of the tarsi. This hawk lives entirely in the bush, especially frequenting the neighbourhood of wooded streams, and darts upon its prey (small birds) from the trees above. The stomach of one specimen examined contained the remains of a frog.

[I may take this opportunity of observing that the geographical range of the *Accipiter tachiro* does not appear to be exclusively limited to Africa, as I obtained an adult male specimen from Mr. Warwick, who assured me that he received it from Erzeroom.—J. H. G.]

22. Accipiter exilis (Temm.). Red-bellied Hawk.

This hawk is rare, but not shy; it will sometimes carry off a small chicken with great swiftness, disappearing as suddenly as it appeared. Iris yellow.

23. Accipiter minullus (Daud.). Least African Hawk.

Lives in the bush, darting with incredible celerity on any small bird that comes within its reach, and taking it on the wing. Iris light yellow; legs bright yellow.

24. Circus ranivorus (Daud.). South-African Harrier.

Eyes and legs light yellow. Very similar in their habits to *Milvus parasitus,* but hunt more over one spot of ground, backwards and forwards, flying close to the ground, and frequently hunting the same spot day after day; though their flight appears laboured and heavy, they keep on the wing a great length of time, seldom alighting except to take their prey, which they devour on the ground, and which principally consists of rats. They do not feed on carrion, like *Milvus parasitus.*

25. Ephialtes capensis (Smith). Cape Scops Owl.

Male. Eye large and bright yellow; feet brownish yellow. Rare here. The only one we have shot: the stomach contained a few moths, but no signs of mice, or anything of that kind.

This Owl utters a shrill, melancholy, monotonous note, generally soon after sunset, and occasionally in the night.

26. Bubo maculosus (Vieill.). Spotted Eared-Owl.

Rather rare and very shy. Roosts in trees. Iris yellow.

27. Athene woodfordi (Smith). Woodford's Owl.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

28. Strix capensis (Smith). Cape Yellow Owl.

Feeds on rats; sleeps in the day-time on the ground, in the grass. I have never seen them alight on trees. Eye black.

29. Caprimulgus infuscatus (Rüpp.). Fuscous Goatsucker.

These birds roost only in trees, and when disturbed fly to another tree, always perching lengthways on the branch. When they feed during the night, they settle on the ground and watch for insects as they pass. The stomach of one specimen sent was filled with winged ants. The eye is large; the iris dark brown.

30. **Caprimulgus natalensis** (Smith). Natal Goatsucker.

This species does not roost in trees, but always on the ground amongst the grass, and when disturbed alights again in the grass. They feed principally on beetles, which they swallow whole. Iris dark brown.

31. **Halcyon fuscicapilla** (Lafr.). Brown-hooded Kingfisher.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

32. **Ceryle maxima** (Pallas). Great African Kingfisher.

Eye nearly black; bill black. These birds frequent the rivers and lakes, and are not found far from the coast. They feed entirely on fish, which they dart on from their perch on a bough above. When flying, they make a loud chattering noise, audible at a great distance. They generally roost at night at the same pool and on the same pond for a length of time, wandering away in the day-time and returning at night. I find in some of them intestinal worms (somewhat similar to the Wireworm of England), which eat into their flesh and entrails, but do not seem to injure the health of the bird.

[Dr. Hartlaub, in his admirable work on the birds of West Africa, treats *Ceryle maxima* of Pallas and *Ceryle gigantea* of Swainson as distinct species, but states that "it is not without some consideration" that he has adopted that opinion. Although I feel much diffidence in expressing a dissent from Dr. Hartlaub's conclusion, I must state that such evidence as I have been able to obtain appears to me to be adverse to the opinion of these two supposed species being really distinct. And I am the more disposed to think they are the same, because their alleged distinctness rests much upon differences of measurement, which, it appears to me, must not be relied on too minutely. As an example, I may mention that six specimens from Natal in the present collection do not entirely agree in measurement either with the dimensions assigned by Dr. Hartlaub to *Ceryle maxima* or with those assigned to *C. gigantea*.

Dr. Hartlaub's measurements of the two supposed species are as follows:—

C. maxima:—Long. $17\frac{1}{2}$–18″. Rostr. 2″ 9‴. Al. 7″ 3‴. Caud. 4″ 5‴.

C. gigantea:—Long. $15\frac{1}{2}$″. Rostr. 3″ 1‴. Al. 7″ 10‴. Caud. $4\frac{1}{2}$″.

The dimensions of six specimens sent to me from Natal are as follows:—

	Long. tota.	Rostri.	Alæ.	Caudæ.
No. 1. ♂ Adult.........	17	$3\frac{1}{2}$	8	$4\frac{1}{2}$
No. 2. ♂ Adult.........	$15\frac{2}{4}$	$3\frac{1}{4}$	8	$4\frac{1}{2}$
No. 3. ♂ Immature ...	16	$3\frac{1}{4}$	$7\frac{3}{4}$	$4\frac{1}{2}$
No. 4. ♀ Adult.........	$16\frac{1}{2}$	$3\frac{1}{2}$	8	$4\frac{3}{4}$
No. 5. ♀ Immature ...	17	3	8	$4\frac{3}{4}$
No. 6. ♀ Immature ...	$16\frac{1}{4}$	$3\frac{1}{4}$	8	$4\frac{1}{2}$

The above particulars appear to me clearly to indicate that the minute details of measurement in this Kingfisher are subject to a good deal of individual variation, and ought not to be too much relied on as grounds of specific distinction.

In this as in several other species of the genus *Ceryle*, the females are distinguished from the males by the greater amount of rufous colouring on their lower surface. Mr. Ayres having carefully noted the sex of his specimens, I am able to give the following particulars of the colouring of the sexes in this species. My remarks will be confined to the under side of the bird, the upper parts being the same in both males and females.

♂ *Adult.* Throat and chin white, bordered on the sides with black and white mixed: chest rufous, also bordered on the sides with black and white: abdomen white; sides white, with transverse bars of black: under tail-coverts white, spotted with black, the spots in some specimens forming transverse bars: feathers on the under side of the wing white.

♀ *Adult.* Throat and chin as in adult ♂: chest slate-coloured, varied by the feathers having black centres and being also more or less barred with transverse white markings; the slate-colour and black predominating on the upper part of the chest, and the white on the lower part adjoining the abdomen: abdomen, sides, under tail-coverts, and feathers on the under side of the wings uniform rich rufous.

♀ *Immature.* The same as the adult ♀, except that the feathers on the upper part of the chest are edged with white, tinged with rufous, and the dark portions of these feathers are black and not partly slate-coloured as in the adult ♀.

The lower part of the chest is a pure white without the dark spots observable in the adult ♀.

♂ *Immature.* The same as the immature ♀, except that the centre of the abdomen is white throughout its whole length, forming a longitudinal white band, which is prolonged through the under tail-coverts. The feathers on the under side of the wing are also white, as in the adult ♂.

I may add that the figure given of this Kingfisher in Swainson's 'Birds of Western Africa' (plate 11) represents an adult male, and that in the 'Planches Enluminées' (plate 679) a male in immature dress. In the plates to Dr. Reichenbach's 'Alcedineæ,' figure 3101 represents an immature female, 3102 an immature male, 3103 an adult male (copied from Swainson), and 3486 an adult female. Dr. Reichenbach considers *Ceryle maxima* and *C. gigantea* as true and distinct species, and so describes them in the work to which I have referred. He gives the two first-mentioned figures as representing *C. maxima*, and the two last-named as *C. gigantea*.—J. H. G.]

33. CERYLE RUDIS (Linn.). Black and White Kingfisher.

Eye black: feeds entirely on fish; frequents the lakes and rivers near the coast; not found in the interior. This bird hovers over the water before darting down, and if not successful flies on further and hovers again; having caught a fish, it flies to a bough or post to swallow it.

34. ALCEDO QUADRIBRACHYS, Bp. Dark-blue Kingfisher.

Eye black: feeds entirely on fish; frequents both the coast and the interior; darts on its prey from a bough above the water; does not hover like *Ceryle rudis*.

35. CORYTHORNIS CRISTATA (Linn.). Little Crested Kingfisher.

Eye black; legs and bill brilliant red: frequents both the coast and interior streams, and feeds on freshwater shrimps and small fish, but principally the former; also on beetles and insects; darts from a bough on its prey. Builds in holes in the banks, merely forming a small round chamber at the end of the hole.

36. Ispidina picta (Bodd.). Painted Kingfisher.

These birds feed entirely on butterflies and insects caught on the wing; they frequent the dense bush, and are often seen along the streams, but never catch fish.

37. Oxylophus serratus (Sparrm.). Edolio Cuckoo.

Eye nearly black; tarsi slate-coloured. These birds feed on caterpillars, ants, and other insects, in search of which they hop about amongst the thick creepers, principally frequenting small, low, isolated bushes. They are weak on the wing, and do not take long flights, but are migratory, arriving in October and leaving in March. The gizzard of this bird is most curious: the inner skin is lined with hair like the hair of a young mouse, and is quite separate from the flesh of the gizzard.

[It will be recollected that a similar appearance of the stomach being lined with hair frequently occurs in specimens of *Cuculus canorus*, and that these hairs were ascertained by the late Mr. Thompson of Belfast to be those of the larvæ of the Tiger Moth, on which the Cuckoo frequently feeds. (See Proceedings of the Zoological Society for 1834, page 29.)—J. H. G.]

38. Cuculus nigricans, Sw. African Black Cuckoo.

Eye very dark brown. This bird has a very loud, harsh note, and is more shy than the generality of Cuckoos; it is active, remaining but a short time in the same spot; it feeds on caterpillars; it visits this part of the country periodically, disappearing during the winter months.

39. Cuculus gularis (Steph.). African Grey Cuckoo.

Eye brownish yellow; legs light yellow: very rare. Frequents small bushes in the open country; perches upright on a bough, like a Hawk, and resembles the smaller Hawks in its flight.

40. Chrysococcyx smaragdineus (Sw.). Emerald Cuckoo.

These splendid birds, though not by any means plentiful, are easily obtained, in consequence of their loud call, which they make at short intervals. They will remain on the same tree, and nearly the same bough, for hours together; they feed principally on caterpillars, but sometimes catch the winged females of the white ant as they rise from the ground, darting upon them similarly to the Flycatchers or Drongo Shrikes. It has a swift dipping flight, similar to that of the Wagtails, and when disturbed generally flies to a good distance. It frequents bushy country near the coast.

41. CHRYSOCOCCYX AURATUS (Gm.). The Didric Cuckoo. [Sent from Natal, but not by Mr. Ayres.—J. H. G.]

42. CHRYSOCOCCYX CLAASII (Cuv.). Klaas's Cuckoo.

These birds are more active than *C. smaragdineus*, not remaining so long in the same place; they also have the dipping flight of the Wagtails, but do not call so frequently, and their note is not so loud. They feed on caterpillars.

43. INDICATOR MINOR, Stephens. Least Honey-Guide.

Too well known to need description. Feeds principally on caterpillars.

44. CENTROPUS SUPERCILIOSUS (Rüpp.). Eyebrowed Spur-Cuckoo.

[Mr. Ayres has sent me two specimens, which appear both to belong to this species. I add his remarks respecting each, premising that No. 1 appears to me to be an immature, and No. 2 an adult specimen. No. 1 is marked as ♀ by Mr. Ayres; the sex of No. 2 he has not marked.—J. H. G.]

No. 1. Eye light brown; legs bluish slate-colour. This bird frequents the dense bush, and principally lives amongst impenetrable creepers, where it hunts about in search of the insects which it feeds upon; if disturbed, it flies but a short distance.

No. 2. Eye splendid bright crimson; bill black; feet and legs light slate-colour: is common here, and frequents marshy and reedy places. I take it to be a distinct species from No. 1, the colour of the eye differing so much; but the note is precisely similar—a loud, melancholy, cooing noise; they call most in wet weather; they are fond of getting up into trees that are covered with creeping plants, and sunning themselves; they generally fly on to the lower part, and gradually hop upwards till they gain the top; they can fly but a very short distance at a time, and are easily caught if chased out into the open grass, though they lie very close, and it requires a good dog to find them; if disturbed, they immediately fly to the thickest cover at hand, and commence running like the Rails. They feed on grasshoppers, caterpillars, and other insects.

45. Zanclostomus æneus (Vieill.). Bronze Cuckoo.

The eye in this species is a beautiful dark red. It is rather a rare bird, and frequents the dense bush, where it creeps about like the Colies. Its habits resemble those of *Centropus superciliosus*, but it is not so active. It feeds on locusts and large grasshoppers.

46. Totanus glareola (Linn.). Wood Sandpiper.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

47. Scopus umbretta (Gm.). Umbrette.

Eye very dark; legs black. Spread all over the country, but not numerous, and always seen singly. They frequent the streams of the interior, and the rivers and lakes near the coast: they are not very shy.

48. Geronticus hagedash (Sparrm.). Caffer Ibis.

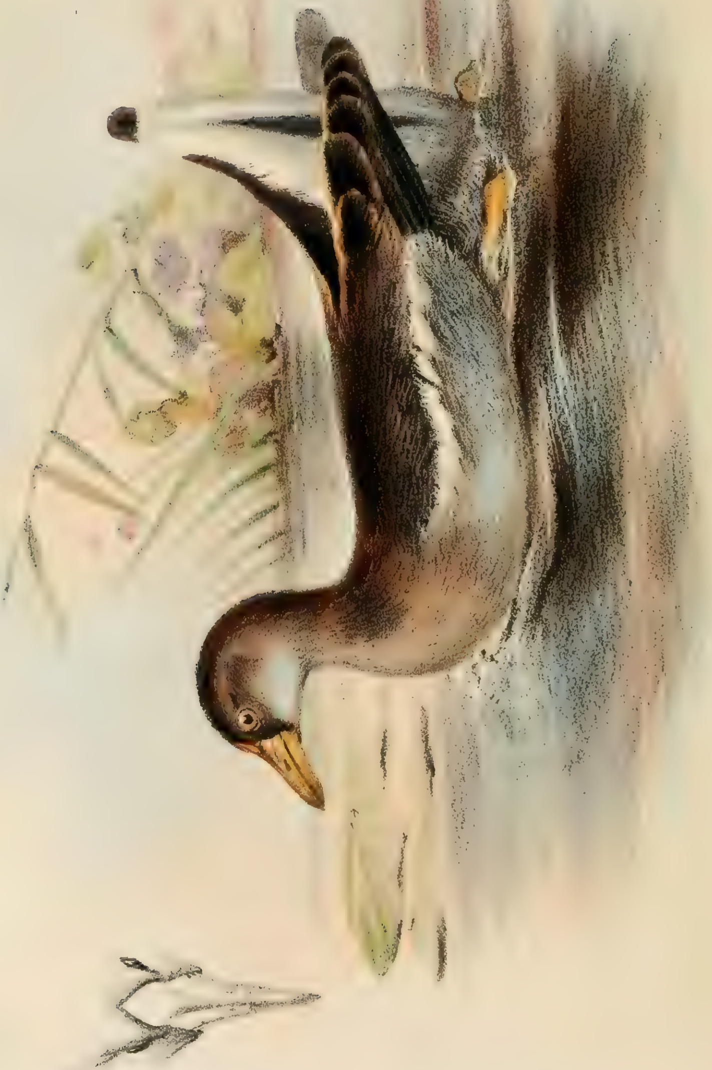
Mr. Ayres states that he is unacquainted with the habits of this Ibis.

49. Ciconia leucocephala (Temm.). Violet Stork.

Eye dark brown; bill black, red towards the tip; legs black. Frequents the bays and swamps along the coast (occasionally coming inland). As the tide recedes, they wade into the water after crabs and small shell-fish, of which (especially the first) their food principally consists. They are gregarious, and not so shy and cunning as most of the Waders; the flesh is coarse, and not good eating. The stomach of the specimen sent contained a large quantity of the shells of small crabs, a few small shell-fish, and a very few fish-bones.

50. Ardea cinerea (Linn.). Common British Heron.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]



51. HERODIAS FLAVIROSTRIS (Temm.). African Yellow-billed White Heron.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

52. ARDETTA MINUTA (Linn.). European Little Bittern.

Immature male. Eye bright yellow; bill greenish-yellow, but brown along the top; legs dull green, but soles of the feet and back of the legs light yellow. The only specimen seen: shot in a small river about twelve miles from the coast: stomach contained shrimps and small fish. This bird was hopping amongst the reeds from one to the other about three feet from the surface of the water with great celerity, occasionally stopping and attempting to hide itself, not by hopping to the ground, but by making itself appear as much as possible like an upright reed—compressing its feathers, and stretching its neck to the utmost with the bill quite perpendicular, so as to be scarcely distinguishable from the reed upon which it was sitting.

53. RALLUS AQUATICUS (Linn.). European Water Rail.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

54. CORETHRURA RUFICOLLIS (Gray). Jardine's Rail.

Frequents marshes and boggy places; is very difficult to put up, and only flies three or four yards; it is easily caught if the grass is not too long, and evidently cannot fly more than a few yards at a time.

55. PARRA AFRICANA (Gmel.). African Jacana.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

56. PORPHYRIO SMARAGNOTIS (Temm.). Green-backed Porphyrio.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

57. GALLINULA CHLOROPUS (Linn.). European Waterhen.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

58. GALLINULA PUMILA *, Sclater. (Pl. VII.) Natal Gallinule.

Mr. Ayres states that he is unacquainted with the habits of

---

* Mr. Gurney has sent me this Gallinule for examination. I can find no described species which at all agrees with it, and am inclined to

this Gallinule, which he procured in Natal, but did not shoot it himself.

59. Podica petersii, Hartlaub. Peters's Finfoot.

Rare, and exceedingly shy. Frequents the rocky streams of the interior of the country; can scarcely rise from the water; generally flies along the surface, aiding itself with its feet, which are lobed; when disturbed it hides under the banks, similarly to the Moor-hen in England. The legs are bright red, and the eye dark. Feeds on freshwater shrimps and small fish.

[This species, which is considerably larger than the *P. senegalensis* of West Africa, was described by Dr. Hartlaub in 1851, under the name of *Podica petersii*, in honour of Professor Peters, who first discovered it in Mozambique, and who subsequently (in 1856) himself described it under the name of *Podica mosambica*. It has also been designated by Lichtenstein, in the Berlin Museum, *Heliornis impipi* (*vide* note on *Podica senegalensis* in Hartlaub's 'Ornithology of West Africa,' p. 250).

During the breeding-season, the feathers on the crown of the head, the nape of the neck, and the upper part of the back of this bird, which are ordinarily of an olive-brown colour, show an edging of bluish-black with a metallic lustre.

---

consider it new. It is a typical *Gallinula* of small size, whence I propose to call it

Gallinula pumila, sp. nov.

Suprà saturatè umbrino-brunnea, cervice, uropygio laterali et alis externè cinerascentibus: subtùs albicanti-cinerea, gulâ pallidiore, albicante; pectore et ventris lateribus brunneo perfusis: caudâ nigrâ, hujus rectricibus extus brunnescente vix tinctis; caudæ tectricibus inferioribus, crissum nigrum circumdantibus, albis: hypochondriis cinerascenti-brunneis, plumis quibusdam albis ornatis: rostro flavo, culmine brunnescente: scuto frontali trigono, verticem versus colore coccineo terminato: pedibus pallidè flavicanti-brunneis: long. totâ 9·7, alæ 5·0, caudæ 2·5, tarsi 1·5.

The frontal shield of this bird is terminated in two straight lines which form the sides of an isosceles and nearly equilateral triangle, with a line drawn across the culmen and joining the points where the feathering terminates for its base. The edge of this shield next to the feathers appears to have been bright crimson in the living bird. The long white spots on the elongated feathers of the flanks, and black crissum surrounded by the pure white subcaudals, are highly characteristic of the genus of which it is a member. Mr. Wolf's drawing (Plate VII.) will, I think, render the species easily recognizable.

The throat, sides of the neck, cheeks, and chin, which at other seasons are white, then assume a dark lead-colour, which is separated from the darker metallic tint on the back of the neck by a narrow and somewhat irregular white line running backwards from the eye down the whole length of the side of the neck.—J. H. G.]

60. NETTAPUS MADAGASCARIENSIS (Gm.). Madagascar Dwarf-Goose.

These birds are gregarious, frequenting the lakes and rivers near the coast.

61. ANAS SPARSA (Smith). White-spotted Duck. (Eyton, Anatidæ, p. 142; Ill. S. Afr. Zool. pl. 97. *Anas leucostigma*, Rüppell, Syst. Ueb. tab. 48.)

Eye very dark brown. We seldom find more than two of these birds together; they frequent the rocky streams in the interior of the country, and are by no means plentiful; they are exceedingly shy and wary. In the moulting-season we have shot them so denuded of feathers that they could not fly a yard, and depended for their safety on diving and hiding under the banks, at which they are very expert, and it is difficult to frighten them from their hiding-place.

[The sexes in this Duck appear, from the skins sent by Mr. Ayres, to be similar in plumage; but the male bird considerably exceeds the female in size.—J. H. G.]

62. PŒCILONETTA ERYTHRORHYNCHA (Gm.). Crimson-billed Duck.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

63. DENDROCYGNA VIDUATA (Linn.). White-masked Duck.

Gregarious, frequenting the lakes and rivers near the coast.

[It is well known that this Duck is found in the north-eastern parts of South America, as well as in Africa. Specimens from the two continents appear to me, on examination, to be identical.—J. H. G.]

64. PLOTUS LEVAILLANTII (Temm.). Le Vaillant's Darter.

[Sent from Natal, but not by Mr. Ayres.—J. H. G.]

XXV.—*Observations on the Birds of St. Croix, West Indies, made, between February 20th and August 6th* 1857 *by* Alfred Newton, *and, between March 4th and September 28th* 1858 *by* Edward Newton. (Part III.)

[Continued from page 150.]

† 25. Grey Pigeon. *Columba corensis*, Gmel. *C. portoricensis*, Temm., Pig. pl. 15; d'Orb. Voy. de l'Ile de Cuba, Ois. pl. 27. *C. monticola*, Vieill. *C. imbricata*, Wagl. "Blue Pigeon."

This fine bird is commonly said to be a visitor from Porto Rico, and not to breed in the island; but we are inclined to think it occasionally does so. It is not very abundant, and is generally seen in small flocks of six or seven. It appears to feed sometimes on the blossom of the Mountain-cabbage, and chiefly frequents the hills in the north of the island, but now and then may be observed in the extensive tract of bush-land on the south side. Its flight is very like that of our Wood Pigeon (*C. palumbus*, L.). The bill is bright lake, yellowish-white at the tip of both mandibles. The skin round the eye nearly bare and of a dull red, with a little fine yellow bloom upon it. The iris is double, the inner ring scarlet, the outer and narrower one golden-yellow, legs and feet lake, claws dark horn-colour.

"The manager of the Great Fountain Estate told me that many years ago he had a young 'Blue Pigeon' brought to him alive from the nest. It lived with him a long time, and became exceedingly familiar, but of course, like all pets, came to an unhappy end."—A. N.

"On April 29th, 1858, I observed some boys looking up into a Thibet-tree not a hundred yards from the shore, close to the town of Frederiksted; and going to the spot, found they were watching a bird of this species which one of them said he had seen fly in from the sea that morning. The bird was evidently much tired, and remained for two hours in the same place, when, risking the displeasure of the Danish authorities, I shot it. It proved to be a male, and, though in good condition, had nothing in its crop but a few leaves of the Thibet Tree, which it had probably plucked off as it sat. I continued to see this species up to the time of my departure from the island."—E. N.

26. White-crowned Pigeon. *Patagiœnas leucocephalus*, Reichenb. Icon. pls. 223, 255. *Columba leucocephala*, L.; Bp. Am. Orn. pl. 15. fig. 1; Aud. pl. 177. "White-head;" "Bald-pate."

Inhabits the same localities as the last species, but is not so common. It is also said of this bird that it migrates from Porto Rico, though it does undoubtedly breed in the island; as we have a specimen of a young one, shot July 28th, 1858, which could not have left the nest many days.

An example of this species which had been originally captured in an out-house, where it was supposed it had taken refuge from some bird of prey, lived for two or three years in the possession of our friend Dr. Carden of St. Croix, who kindly permitted us to present it to the Zoological Society of London, in whose gardens it was safely deposited last October, and where it is still thriving.

† 27. Zenaida Dove. *Zenaida amabilis*, Bp., Am. Orn. pl. 15. fig. 2. *Columba zenaida*, Aud. pl. 162. "Mountain Dove."

This handsome bird is very common, and, besides affording very pretty shooting, has the additional advantage of being excellent eating. Though it is numerous on the hills, as its local name would lead one to expect, it is likewise plentiful in any part sufficiently overgrown with bush. It does not appear to us to be so very terrestrial in its habits as is stated by some writers; nor have we particularly marked the "peculiar whistling of the wings" mentioned by Mr. Gosse (B. Jam. p. 308) and others. Its flight is remarkably rapid. It breeds from April to the end of July, and builds an ordinary-looking Pigeon's nest —a mere platform of twigs, in a bush or tree at any height from a few feet to twenty. It lays two eggs, which, in this island at least, are perfectly white, and not "of a drab hue," as stated by Mr. Gosse (*Ib.* p. 310). The young birds are often taken from the nest and brought up without much difficulty. The cooing of this Dove much resembles the noise made by sounding a conch-shell.

† 28. White-fronted Ground-Dove. *Chamæpelia trochila*, Bp. Consp. Av. ii. p. 77. "Ground-Dove."

Very common everywhere. It is seen perpetually running about on the roads, rather like a Starling (*Sturnus*) both in its habit of taking short flights and quick manner of picking up things from the ground as it goes. It breeds in various situations, sometimes on the ground amongst the Guinea-grass, at others in a low bush, or even on the Sugar-canes, and occasionally tolerably high up on a Manchioneel, in which case it often selects a tuft of "Old-man's-beard" (*Tillandsia*) as a foundation for its nest, which is a more compact structure than that built by most Doves.

"On April 6th, 1857, as I was riding, I started a Ground-Dove from its nest on a Manchioneel-tree that had been cut off about five feet from the ground. The stump was about a hand's breadth in diameter; and the middle of it having rotted away, a sort of cup was formed by the upstanding bark, just of a convenient size to hold the nest, which consisted merely of a few bits of dried grass. The whole affair reminded me very much of a nest of a Mealy Redpoll (*Ægiothus linaria* (L.); *Fringilla borealis*, Temm.) which I once saw in Norway.

"The brighter colours of this little Dove distinguish it even on the wing from its northern ally, the Ground-Dove of the United States, *C. passerina* (Sw.)."—A. N.

In this bird the bill is pinkish-brown, darkest at the tip. The iris consists of four rings: the outer one, which is narrow, is black; the second about three times as broad and lake-pink; the third, a mere line, black; and the fourth and inside one, gold. The feet are flesh-colour, the claws dark.

We have specimens of this species from Jamaica, in every respect identical with those from St. Croix and St. Thomas.

We wish to record our obligations to Mr. George Gray, of the British Museum, for his kind assistance on many points, but most especially in determining the *Columbidæ* here mentioned.

† 29. Virginian Quail. *Ortyx virginianus*, Bp.; Wils. pl. 47; Aud. pl. 76; Yarr. B. B. ii. p. 348 (fig.). "Quail."

Introduced into the island some fifty years ago, or more, by one of the Governors, and now very common in almost every part of it, but especially abundant in the grass-lands of the south-west, where the loud call-note of the cock may nearly always be heard. We have several times seen birds of this species fly up and perch upon trees; twice this happened on their being sprung by a dog. They breed from the end of April to the middle of July, and often lay a dozen or fifteen eggs. The nest does not appear to us to be ever covered over as described by some writers, and consists merely of a shallow hole scraped in the ground, in which is deposited a little dried grass or "trash"—the leaves of the Sugar-cane,—but it is certainly often placed to leeward of a protecting cane "stool"*.

30. Virginian Plover. *Charadrius virginicus*, Bechst. *C. pluvialis*, Wils. pl. 57. fig. 4, and pl. 59. fig. 5. *C. marmoratus*, Wagl.; Aud. pl. 300. "Plover."

An autumnal migrant, appearing often in large numbers. They are usually seen after a gale of wind from the South or South-West; and hence arises the belief prevalent in the island, that these birds, and indeed all the Waders, come from the Spanish main; but the unquestionable explanation of the fact is that the birds are arrested in their southward migration by the wind, and are therefore compelled to defer journeying further until the weather has changed; or else that, having partly crossed the Caribbean Sea, they are driven North again.

"The arrival of this bird is hailed with delight by St. Croix sportsmen of all classes and colours: every one who possesses a gun sallies forth to the 'pastures' on the south side of the island, which are grassy plains, and in wet weather in the condition which an East-Anglian fen-man would call 'splashy.' Here are seen people in all directions,—those who are armed standing behind, or, if it is raining, sitting in their carriages, while the unarmed are scattered on every side; and all are employed in keeping a good look-out. Presently some one calls out, 'Mark!' and a long line of these Plovers are seen flying up from the sea, ignorant of the fate which awaits them. They do not appear in the least shy—their habits in this respect differing very much from those of our own Golden Plover (*C. pluvialis*, L.) in England, and probably from their own at other times when not wind-bound and wearied—but run the gauntlet of the carriages, only twisting from one to get shot at from another, and often, after flying round once or twice, pitching within a short distance*. In 1858, I heard of their first occurrence on August 31st.

---

* All the attempts which have been made to naturalize this bird in the United Kingdom seem to have completely failed; and, in our opinion, its name should be erased from the British and European lists. As far as concerns the Eastern Counties of England, often mentioned as the district colonized by it, we can state pretty positively that it is not now found in them.

"It is rather a curious fact, that I did not see a single Plover that had not more or less trace of the black breast of the breeding-plumage remaining; and I saw some hundreds; it would seem therefore that the young birds must take a different line in their migration from their parents. The bird with the black breast is always called simply the 'Plover,' and is spoken of in the island as distinct from the 'Golden Plover.' This latter I did not meet with; but in my opinion it is most likely the young of the present species, keeping in separate flocks and migrating at a different time,—a habit possessed by birds of passage, first noticed, I believe, by M. Temminck†."—E. N.

31. Turnstone. *Strepsilas interpres*, Illig.; Wils. pl. 57. fig. 1; Aud. pl. 304; Gould, B. Eur. pl. 318; Yarr. B. B. ii. p. 422 (fig.).

"I saw a company of five or six of this thoroughly cosmopolitan species in the beginning of April, 1857, on the south shore of the island."—A. N.

"I shot two Turnstones from a flock of three on the sea-shore, Sept. 8th, 1858. One was a young, the other an old bird."—E. N.

32. Sanderling. *Calidris arenaria*, Cuv.; Wils. pl. 59. fig. 4, and pl. 63. fig. 3; Aud. pl. 338; Gould, B. Eur. pl. 335; Yarr. B. B. ii. p. 427 (fig.).

"I killed a female bird Sept. 13th, 1858."—E. N.

Examples of this species from the New World seem to be constantly larger than those from the Old.

---

* "So much of the above is identical in opinion, if not in language, with the expressions made use of by Mr. Hurdis, in his ornithological notes contributed to Mr. J. M. Jones's excellent little book 'The Naturalist in Bermuda' (pp. 71 *et seq.*), that I feel it necessary to mention that this paper was written before I had seen that work."—E. N.

† Manuel d'Ornithologie, 3me partie, Intr., p. xliii., *note*.

33. Spotted Sandpiper. *Tringoïdes macularius*, Gray; Wils. pl. 59. fig. 1; Aud. pl. 310; Gould, B. Eur. pl. 317; Yarr. B. B. ii. p. 544 (fig.).

This occasional straggler to England is tolerably common in St. Croix, and probably remains there throughout the winter.

"In 1858, it was absent, according to my observation, from April 27th to July 27th."—E. N.

34. Yellow-shanked Sandpiper. *Gambetta flavipes*, Bp. *Totanus flavipes*, Wils. pl. 58. fig. 4; Aud. pl. 228; Yarr. B. B. 3rd ed. ii. p. 637 (fig.). "Yellow-legs."

This recent addition to the British list occurs, but not plentifully, in spring and autumn, and probably does not remain in the island the winter through.

"I obtained a specimen July 26th, 1857."—A. N.

"I saw it first on August 3rd, 1858."—E. N.

35. Solitary Sandpiper. *Rhyacophilus solitarius*, Bp. *Tringa solitaria*, Wils. pl. 58. fig. 3. *Totanus chloropygius*, Vieill.; Aud. pl. 289. *T. glareola*, Ord.

This, the representative in the New World of our Wood Sandpiper (*R. glareola*, Kaup), which it closely resembles in osteological characters and general appearance, has perhaps more the habits and note of the Green Sandpiper (*Helodromas ochropus*, Kaup). In St. Croix it is pretty common, and arrives about the same time as the Yellow-legs.

"I obtained a specimen July 26th, 1857."—A. N.

"I saw it first on August 5th, 1858."—E. N.

36. [?] —— (?) Godwit. *Limosa* —— (?). "Curlew."

We suppose a brown-plumaged Wader described to us as sometimes occurring in autumn, with an *up*turned bill, but called a "Curlew," to be one of the American Godwits, though which species we are unable to state.

37. Semipalmated Sandpiper. *Ereunetes petrificatus*, Ill. *Tringa semipalmata*, Wils. pl. 63. fig. 4; Aud. pl. 408. "Grass Bird."

Occurs in autumn, and frequents the "pastures," in flocks of from ten to twenty.

"In 1858, first seen on August 14th."—E. N.

38. Wilson's Stint. *Actodromas wilsonii* (Nutt.). *Tringa pusilla,* Wils. pl. 37. fig. 4; Aud. pl. 320; Yarr. B. B. 3rd ed. i. pref. p. vi. "Grass Bird."

This, like the species last mentioned, occurs in autumn, frequenting the sea-shore as well as the "pastures;" but more than two are seldom seen together.

"I saw this species first on August 19th, 1858."—E. N.

39. Pectoral Sandpiper. *Tringa maculata,* Vieill. *T. pectoralis,* Bp. Am. Orn. pl. 23; Aud. pl. 294; Gould, B. Eur. pl. 327; Yarr. B. B. ii. p. 654 (fig.).

"I met with this bird occasionally after September 14th, 1858, and obtained some examples; but I never saw more than two in company."—E. N.

Specimens of this species differ remarkably in size, as is probably the case with many of the *Tringinæ;* and it is possible that in the present instance it may be found that these differences in size are accompanied by a constant variation in plumage, and perhaps also in nesting-locality, so as to form races which should be always carefully distinguished from one another, as is the case with the larger and smaller Dunlins of Europe (*T. alpina,* L., and *T. schinzii,* Brehm [*nec* Bonap., Gould, and Yarr.]; *T. cinclus minor,* Schl.) and the Dunlin of America (*T. americana,* Cass.).

40. [?] Wilson's Snipe. *Gallinago wilsonii,* Bp. *Scolopax gallinago,* Wils. pl. 47. fig. 1; Aud. pl. 243. *S. brehmii,* auct. [?].

Appears, by all accounts, to occur in the fall of the year, but very irregularly, and in no great numbers.

"I saw what I have little doubt was a bird of this species, Sept. 24th, 1858."—E. N.

41. Black-necked Stilt. *Himantopus nigricollis,* Vieill.; Aud. pl. 328; Gosse, Ill. B. Jam. pl. 108. *Recurvirostra himantopus,* Wils. pl. 58. fig. 2. "Bastard Flamingo."

Though most of the inhabitants know this bird by name, yet very few have seen it alive or dead. It is certainly not common in the island, but is probably a regular visitant, even if not a permanent resident.

"On my arrival in St. Croix in 1857, there was given to me the skin of a bird of this species, which had been shot, some years previously, on the borders of the large putrid pond on the south side of the island, called Krausse's Lagoon. It was regarded as a very great curiosity, and justly so, since it was then probably the only bird-skin that had ever been prepared in St. Croix."—A. N.

"This species only came under my observation on a few occasions, and always at the name locality, namely, Krausse's Lagoon. This lagoon is surrounded by a dense girdle of Mangroves, and clumps of the same trees stand out in the midst of the water, some of them forming islands (if islands they can be called where there is no *terra firma*, but only the network of their arching roots to afford a landing-place), or belts subdividing the lagoon into ponds of various sizes and shapes. The water is seldom more than two feet deep, in some places not two inches, so that every slight change, even of half a point, in the 'Trade' alters the relative extent of mud and lake. Excepting the Mangroves, the shores of the lagoon may be said to be almost destitute of vegetation: there are no tall rushes, no bamboos, no long reeds or grass; the Mangrove alone, but most luxuriantly, grows out of the mud. When embarked on the waters of this pool, so delightful to the eye, one's sense of smell is assailed by the most pungent odours, recalling reminiscences of blowing eggs once fondly cherished but long since deserted by their rightful owners. They increase as every step taken by the naked negro who is pushing along the flat-bottomed 'bâteau' stirs up the mud, and serve to excuse, if they do not require, the use of the strongest tobacco, to enable one to hold up one's head. Even the keenest sportsman or the most ardent ornithologist is almost prostrated by the horrible stench of sulphuretted hydrogen. But at length, on emerging from an opening in one of the innumerable belts of trees which intersect the lagoon, one's attention is attracted by three or four birds wading mid-leg in the shallow water; and though seen for the first time, one knows them at a glance to be Stilts: they are quite regardless of the approach of the boat, but walk about slowly, sometimes picking up insects from the surface, at others dipping their bills below it, and then stopping with their heads on one side, as if listening or looking intently into the water. Three or four times did it happen to me thus to see this species; and I regret that the unsavoury nature of the locality, and my desire to obtain specimens of this singular bird, prevented my observing more of its habits."—E. N.

The iris in this bird is very narrow, but of a fine red; the bill is black; the legs bright red. To judge by the breast-bones of the two, the American is smaller than the European Stilt (*H. candidus*, Bonn.).

42. [?] AMERICAN COOT. *Fulica americana*, Gm.; Aud. pl. 239. *F. atra*, Wils. pl. 73. fig. 1.

"I saw what was doubtless this bird on more than one occasion, though I never procured a specimen."—A. N.

43. AMERICAN WATER-HEN. *Gallinula galeata*, Bp. pl. 27. fig. 1. *G. chloropus*, Aud. pl. 244. "Water-fowl."

Common and resident. Its note is very different from that of our European species (*G. chloropus*, L.), which it so closely resembles in appearance; but otherwise the habits of the two birds seem to be identically the same, and their eggs are not to be distinguished from each other. It breeds in April.

44. CAROLINA RAIL. *Porzana carolina* (L.); Edwards, B. iii. pl. 144; Wils. pl. 48. fig. 1; Aud. pl. 233.

"A female was brought to me alive April 24th, 1858,—the only occurrence of the species that came to our notice."—E. N.

45. CLAPPER RAIL. *Rallus longirostris*, Bodd. (1784), Pl. Enl. no. 849. *R. crepitans*, Gmel. (1788); Wils. (*descr.*, *non tab.*); Aud. pl. 204; Cassin in Baird's Rep. B. Pac. R. R. Survey, p. 747.

There seems to be little or no doubt (as first, we believe, suggested by Mr. Cassin, *loc. cit.*) of the identity of the *Rallus crepitans* of Gmelin with the *Râle à long bec* of the 'Planches Enluminées;' and we have accordingly considered the two names as equivalents. This bird is very local in St. Croix, only frequenting, as far as we know, the large Lagoon on the south side of the island, before mentioned; but it is there pretty numerous, and breeds.

"This species is very noisy, especially in the evening; and when a gun is fired in their haunts, they may be heard on every side. They are very shy, and not easily shot, as, on approaching, they are seen running across the shallow water or hopping from root to root of the Mangroves, looking like so many rats, to take refuge among the thickest of the bushes, not even showing themselves again as long as danger is apparent. The only adult specimen I obtained was shot by Mr. O. Salvin, July 21st, 1858, when I visited the lagoon with him. As we walked up to the spot, I saw two of these birds on a muddy flat some way from the water; but before I could put the caps on my gun, they both disappeared in the bushes, leaving behind them, however, a young one which could not have been long hatched. This I immediately caught; and remaining perfectly still for ten minutes or so, one of the old birds reappeared, to fall a victim to its maternal anxiety. The iris of this example was reddish hazel; the upper part of the upper mandible and tip of the lower brown, the base of both reddish; the legs liver-colour, redder on the front of the tibiæ, the claws umber. Its stomach contained a portion of a crab, and a few shells. The young bird was completely clothed in black down with a greenish gloss; the bill with the under mandible and distal half of the upper, as well as an elongated patch over each nostril, bright scarlet; the rest livid black."—E. N.

† 46. GREEN HERON. *Butorides virescens,* Bp. *Ardea virescens,* L.; Wils. pl. 61. fig. 1; Aud. pl. 333. *Herodias virescens,* Bp. (*olim*). "Green Gaulin."

This pretty little Heron is very common, and, as before mentioned, is one of the birds especially tyrannized over by the Chicheree (*Tyrannus dominicensis,* Bp.). Of a mild and inoffensive disposition, it merely protests against the system of bullying to which it is subjected, by a few loud and hoarse croaks, and, after evading one or two of its enemy's stoops, drops helplessly into the nearest covert, which is often so dense that one wonders how it will ever again get out. Even the common Humming Bird of the island (*Eulampis chlorolæmus,* Gould) will often give chase to it, and cause it to change the direction of its flight. It breeds from March to July, having certainly two broods in the year. The nest is usually placed in a tall tree, most generally a Tamarind, and often near houses; for the bird seems not only fond of the society of its fellows, but also to affect rather that of men. When on the wing, and seen from above, the back of this species appears almost of a sky-blue, which colour contrasts most agreeably with the golden-yellow of its outstretched legs. An adult female, shot April 18th, 1857, had the upper mandible and upper half of the lower mandible dark grey, the lower half yellowish horn-colour; the upper part of the lore bright king's-yellow, the lower part of it and the orbits greenish yellow; the iris bright yellow, deepening outwardly into red; the legs and toes yellowish green, soles and interdigital membranes bright yellow-ochre. Its stomach contained five lizards (*Anolis,* sp. ?), one of them of a good size, one large cricket, besides a mass of elytra and other remains of beetles. The young in the down are black. The eggs, three or four in number, are of the beautiful sea-green common to most birds of this family, but paler than the average.

Mr. G. R. Gray has kindly afforded us the opportunity of comparing our specimens with those in the British Museum from various localities in North America and the West Indies. There appears to be a pretty constant distinction between them, southern examples being decidedly smaller in size and of a more bluish hue than those from the north; but we cannot say that this distinction amounts to a specific difference. Dr. Gundlach has described (Lembeye, 'Aves de la isla de Cuba,' tab. xii. p. 84) a *Butorides* under the name of *Ardea brunnescens,* from Cuba, which Dr. Cabanis considers (Journ. f. Orn. iv. p. 344) to be specifically distinct from the North American bird; and this may be the ordinary West Indian form. We have deposited examples from St. Croix in the National Collection.

47. YELLOW-CROWNED NIGHT HERON. *Nyctherodias violaceus,* Reichenb. *Ardea violacea,* Linn.; Wils. pl. 65. fig. 1;

Aud. pl. 336. *A. jamaicensis,* and *A. cayanensis,* Gmel. (*nec* Selby). "Grey Gaulin."

Not very common, and generally inhabiting the Mangrove swamps, though leaving them to feed in the interior of the island. Towards evening one may often see this species soaring at a vast height. It breeds, we are inclined to believe, in St. Croix; but we never obtained its eggs.

"An adult male, shot July 25th, 1857, had the bill black, pale yellow about the base; iris and orbit bright golden-yellow; legs and feet bright king's-yellow, the larger scutellations deep brown. The stomach of this example, which was killed about three o'clock in the afternoon, was quite empty."—A. N.

This species when immature may be easily recognized from the common American Night Heron (*Nyctiardea gardenii,* Baird), which is found in Jamaica and some of the other West Indian islands, by its much stouter bill, the more rufous colouring of the upper parts, especially the crown of the head, and the almost entire absence of the light-coloured triangular spots which tip each feather of the back and shoulders *.

48. [?] — (?) Egret. *Egretta* (?) — (?). "White Heron."

White Herons are said to have been seen not unfrequently in St. Croix; but we are unable to say whether more than one species occurs, or to suggest which it may be.

"I saw a white Heron about the size of the species last noticed, at Krausse's Lagoon, August 14th, 1858."—E. N.

49. [?] Great Blue Heron. *Ardea herodias,* L.; Wils. pl. 65. fig. 2; Aud. pl. 211. "Heron."

"In March and April, and again in August, 1857, I occasionally saw an example or so of what must, from its size, have been this species, though I never procured a specimen."—A. N.

"This bird may possibly breed in the island, as I observed one June 10th, 1858. It is a very wary species, taking alarm at almost any sound; and though after a short and heavy flight settling down again just at the distance which gives one hope of a successful stalk, it is only with the intention of repeating the operation."—E. N.

---

* A bird shot at Great Yarmouth, in May 1824, being considered to belong to this species (Youell, in Linn. Trans. xiv. p. 588), the "Cayenne Night Heron" has accordingly been inserted in the British list by Mr. Selby (Brit. Orn. ii. p. 43) and some other authors; but this specimen still exists in the collection of Mr. J. H. Gurney, and the opinion of that gentleman and Mr. W. R. Fisher on the point may be seen in their admirable "Account of Birds found in Norfolk" ('Zoologist,' 1846, p. 1322).

[To be continued.]

XXVI.—*Narrative of the discovery of some Nests of the Black Woodpecker* (Picus martius) *in Sweden.* By W. H. Simpson, M.A.

The forests of Sweden seem to be the head-quarters of the European Woodpeckers. No less than eight species are enumerated as occurring in that country; viz. *Picus martius, P. viridis, P. canus, P. leuconotus, P. major, P. medius, P. minor.* and *P. tridactylus.*

In the districts south of the Great Lakes, especially towards the Baltic, the forests, though not so extensive as in the Central and Northern parts of the Peninsula, still cover vast areas of the level surfaces, the remainder being largely occupied by lakes and morasses. Cultivation has not made much progress here, and, as the sale of timber is most profitable to the proprietors, few but the woodcutter ever invade these regions. In the vicinity of settlements, or wherever there is facility of carriage, the trees are of second growth, and stand in blocks of various ages, divided by lanes often of great length and regularity. There are, however, districts little touched by the axe, which are more exclusively delivered over to the birds of the air and the beasts of the field; here the Wolf and the Glutton, not to mention Foxes in abundance, still dwell in snug lairs amongst the huge granite boulders that are matted over with a covering of heather, cranberry, and similar plants;—quiet gloomy spots, seldom reached by the sun, where the fir and the pine, the beech and black poplar of all ages and sizes are mingled in rank confusion. The mouldering remnants of past generations of trees lie prostrate on the ground, or lean for support against their more vigorous neighbours, thus forming a tangled mass by no means easy for man to penetrate, though much beloved by many of the

Woodpeckers. *Picus viridis* is not to be found in such a locality: the old oaks in the open parts are more suited to his taste, where he may be seen in company with the Roller and the Hoopoe, the Jackdaw and Starling, the Creeper and Nuthatch. But for *P. martius* and *P. major*, such a place as I have attempted to describe is admirably adapted, both on account of the abundance of soft and decaying timber, and likewise because there is little fear of molestation from mankind, in most countries the worst enemies of birds. No other of the five remaining Scandinavian Woodpeckers fell under my observation in the South of Sweden, though in a country so well suited for the *Picidæ* it is to be expected that most of them occur, with the exception, perhaps, of *P. tridactylus*, which is a more northern species.

Towards the latter end of May, 1856, I happened to be staying with a Dane, the overlooker of a large forest belonging to Count L——, having been introduced to him by my companion, who was likewise a Dane. When he heard that I had come all the way from England to find the "*Bo*" of the Spilkråka* (*P. martius*), he sent for his chief woodman to inquire what chance there was of getting one. The woodman said that he had frequently seen birds throughout the spring, and had in former years even noticed their "Bo," but that it was generally so high that nobody could get at it; that this year a pair of birds were known to frequent the edge of a clearing about four miles distant, and that if we would accompany him early next morning we might possibly discover the object of our search. This was cheering intelligence, and caused us to make an early start. Our way lay chiefly through a monotonous wood of spruce firs, very uninteresting in appearance, and apparently destitute of any species of bird, so much so that my heart misgave me as to the success of our undertaking. But on crossing the clearing (a square of about 1000 yards), a Spilkråka was seen to slip quietly away from the upper part of a tall spruce to which he had been clinging, and to fly towards the far corner of the square, where he uttered a single warning cry and disappeared. It took us a very short time to cross the remaining space in the direction he had gone, and it became speedily manifest that one object of our journey was attained. We had found the "Bo" without any difficulty on the skirts of the clearing, where the ground was depressed somewhat below the general level; and not far from the edge of a marsh there stood the remains of an ancient birch some 30 feet in height, and slightly overhanging towards the opening. Near the top on our side was a fresh hole; but what was more to the purpose, from out of that hole there peered the unmistakeable head and bill of *P. martius* gazing at the party without evincing much alarm. My first care was to prevent my companion from blowing to pieces, at the trifling distance of ten yards, that head so temptingly displayed before the muzzle of his gun. This point gained, a tap from the woodman's axe caused the bird to retreat; when we commenced operations, pending which the old ones remained in the vicinity. Sometimes they would come within gunshot, and then, as if alarmed at their own audacity, swing round to the other side of the tree to which they might be clinging, poking so much of the head forwards as to enable them to see what was going on. In this position they would beat a rapid and angry tattoo upon the trees, and occasionally utter, in addition to their ordinary cry, one of the most peculiar notes I ever heard from any European bird, and which more resembles the sharp and momentary ring of a shrill-toned bell than any other sound with which I am acquainted. We heard this note subsequently whilst operating upon another nest; but it appears not to be uttered except under great excitement, and then, perhaps, only by the female. The entrance-hole was within two feet of the top of the tree, which was easily ascended, the bark being very coarse. On examining it I found the edges much rougher than those of holes made by *P. viridis*, the sides sloping slightly upwards towards the interior. In shape it was elliptical, the horizontal being perhaps a fourth larger than the perpendicular diameter. The roof of the cavity was quite honeycombed by the strokes of the bird's bill; and this peculiarity was noticed in the two nests subsequently discovered.

---

* I am informed by Mr. Alfred Newton that '*Spil-kråka*' means Spill- or Chip-Crow. 'Spill' is now hardly used in English except for a piece of paper or other substance employed for lighting candles. Mr. Newton doubts whether '*spill*' is any longer in use in Swedish as a substantive, but states that the verb '*spillra*,' to splinter, is of common occurrence.—Ed.

The depth of the cavity below the entrance-hole was rather less than two feet, which was quite sufficient to prevent my ascertaining what lay at the bottom, though there was no difficulty in introducing the hand as far as the upper part of the cavity. An alarm that the old stump was giving way with my weight brought me very speedily to the ground. The woodman meanwhile cut down a young spruce, and had it reared up against the ancient birch to prevent the anticipated catastrophe. He then went up himself and laid open the nest—being able to do so with his hands alone, so far as to introduce the whole of his arm into the cavity. To my intense delight he proclaimed that there were eggs at the bottom. I immediately ascended, in order to see them *in situ*; but that was impossible without further enlarging the hole, for which my fingers were not strong enough. The party below in the interval had rigged up a long pole with a cap attached to the end of it, into which I deposited the eggs, and then slipped down in time to receive them once more into my hands. They were five in number, one much fresher than the others, which were partially incubated; though on blowing them, it was found that no feathers had been formed. In their smooth ivory texture these eggs very much resemble the well-known eggs of *Picus viridis*. The fresher one was of a glossy white, and sufficiently transparent to show the colour of the yolk; the others were slightly wood-stained, and presented a duller appearance, owing to their having been incubated. When blown, this difference is removed; but the wood-stains of course remain, and somewhat detract from their beauty. In shape they resemble eggs of *P. viridis*, and are not so much larger as I expected would be the case.

The hole was of this year's making. However, the bird is not in the habit of always making a fresh hole, as I afterwards found out. Of the three inhabited nests discovered, two were new and one old. Our woodman had a theory that the Spilkråka occupies its "Bo" during two successive years if not disturbed, and he thought that this identical pair were a young couple that had just set up for themselves. Chips, some of them half an inch in length, lay plentifully at the foot of the tree, giving the ground the appearance of the floor of a carpenter's workshop. I was engaged in securing some of these as specimens of the Spilkråka's workmanship, when a loud trumpeting sound was heard in the distance, announcing that a fresh excitement was in store for us. This was caused by a pair of Cranes, who presently came within sight, flying low across the opening, and right down upon our position. All our party crouched; and my companion was in great hopes of bagging the brace, which he would have done but for a slight noise that caused the birds to swerve towards the left, where they disappeared in the direction of the marsh. We were following the line they had taken, but had not gone a hundred yards from the birch-tree, when the male Black Woodpecker in his anxiety to see what had happened flew upon it, and, after making two or three spirals round the trunk, slipped into the hole. Unluckily for him he came out again, and clung to the broken edge, in which position my companion, to my intense annoyance, fired at and brought him down. However, as there was no help for it, I took the bird and had it skinned. We continued to follow the line of the Cranes until we arrived at the edge of the marsh, but nobody was willing to accompany me further, and I thought it unadvisable to proceed alone, as the very first plunge took me up to the waist.

We afterwards searched another part of the country in a different direction, where the forest was of a more varied character, one especial feature being the existence of occasional groups of ancient oaks, which stand somewhat after the fashion of ornamental timber in a park. They have been left when the rest of the wood was cleared away, and are apparently doomed to be the last of their race, as no young trees of the same species are growing up to succeed them. These Oak-groves are full of Starlings, Jackdaws, and Stockdoves; besides which, the Green Woodpecker, Roller, Creeper, and Nuthatch were also noticed. The Härfogel (*Upupa epops*) and the Görktyta (*Yunx torquilla*) also occur, and are said to breed in these places regularly. Some of the oak-groves are remarkably pretty spots, always refreshing to the eye wearied with the sombre depths of the forest, as it rests upon the green turf beneath the picturesque old trees smiling in comparative sunshine, and generally studded with the Wood Anemone amongst other flowers of the Northern spring.

However, there was no chance of finding the Spilkråka here; so I placed myself under the guidance of another woodman, who eventually brought me to a group of firs evidently frequented by a pair of *P. martius*; for we heard their now well-known cry, though unable to perceive them. My guide showed me a hole that had been inhabited the two preceding years; but, as it was some 50 feet up an immensely tall fir, I felt rather happy that the evident absence of the birds relieved me from the necessity of laying siege to that particular nest. Several of the trees were perforated, but we could not find out the right one.

On the following day the search for *Picus martius* was renewed in a portion of the forest some seven miles to the N.W. of the house, and where the "Bo" of the Glada (*Milvus regalis*) was also said to occur. We proceeded for several miles along one of the straight rides which traverse this forest, through what appeared at a distance to be a complete wall of pines. From a hut by the way a woodman was picked up, who proved a valuable recruit, and under whose guidance we turned off the ride to the left, following a slightly traced path which conducted to a clearing full of old oaks, similar to those previously mentioned.

The ground in many places hereabouts is very rough, and encumbered with masses of decayed and decaying timber, above which shoot very tall firs much mixed with black poplar. We found in the remains of an old birch the nest of *Parus cristatus*, my attention being first drawn to the tree by the uneasiness of the birds. On examining it more narrowly, a hole was apparent about the size of a penny, newly made, and within reach from the ground. I cut it open easily with a pocket-knife, and found young ones almost ready for flying; the crest was very strongly developed. After being duly inspected, they were restored to the tree, and the hole made up. Further on in this direction was a marsh with much underwood, said to contain Cranes, though none were seen or heard. The chief feature, however, hereabouts is the Hackspett (*Picus major*), which is numerous, and has a great partiality for the black poplar here so abundant. The number of old holes bored in these trees is surprising. It is very possible also that *Picus medius* may have its share in this work, though I could not say with certainty that an example of that species came under our notice. The woodman, however, told me, that he knew of two or three kinds of the Hackspett; but unquestionably *Picus major* is the most numerous here. Two inhabited nests were discovered; in one of these the cries of the young were plainly heard, so that we were spared the trouble of cutting it open.

Suddenly the attention of the party was arrested by the unmistakeable cry of a Spilkråka. We continued to pursue the direction of the welcome sound until we arrived at a part of the forest not very far from the reported Crane marsh, containing several tall poplars mixed with pine and fir. Here both the birds were seen; but as there were several old holes, though none of this year's making, we scattered about in different directions, and then stopped to watch. After waiting for about an hour, one of the birds, which had evidently slipped in unobserved since our first sighting them, was seen to come out of a hole by myself, and two others, all from different points. We sprang up simultaneously, the alarm was given, and in a very short time the entire party was standing under the tree—a straight poplar not far short of 100 feet in height, and destitute of anything that could be fairly called a branch, its upper parts being in a broken and decayed condition. There were two old holes of the Spilkraka, both below the inhabited one, which was about 35 feet from the ground, and not of this year's making. As the bole of the tree was perfectly smooth and very thick, there appeared no reasonable chance of climbing up, so as to use the axe with any effect. Indeed the woodman shook his head at the very idea; and we knew that if he could not manage it, no one else could. The overlooker was perfectly willing to allow the tree to be felled, as black poplar here is of no value; but there was nothing against which it could be felled, and to bring such a mass at once to the ground would have been utter destruction to everything in the nest. Nor was there any hope of getting a rope attached to the upper branches, which were quite untrustworthy. Altogether the prospect was very black indeed, and there seemed every probability that the second nest of *P. martius* would prove too difficult of access for us. A council of war was held, when it was agreed that nothing could be done that day, and that the matter should stand over for the present; but the woodman said that he should return early in the morning, and build a ladder on the spot sufficiently high to reach the "Bo." It was to be ready next day at noon, when all the party was to reassemble and assist in hoisting it.

Comforted by this assurance, we returned to a neighbouring forest settlement. Just at dusk, a man living near came and reported a "Bo" of the Spilkråka and another of the Hackspett. To the latter I proceeded immediately, but on cutting it open found three young ones half-fledged.

Next morning an early start was made for the third Spilkråka's "Bo," reported the previous evening. It was situated in a much thicker part of the wood than either of the others. Indeed I am inclined to think, judging also from old nests, that this bird prefers to breed in the neighbourhood of some opening, whether caused by nature or the axe. The hole in this case was situated about halfway (20 feet perhaps) up a dead fir. Being somewhat impatient on this occasion, I requested the man to fell the tree, which he did in the course of ten minutes, causing it to fall with wonderful accuracy against one of its neighbours which he had selected; but the weight was too great, and both came to the ground with an awful crash. On going up to the hole young ones were heard, but could not be reached without our further enlarging it. The cavity of this nest was an inch or two over two feet from the honeycombed roof to the base on which the young had rested; these, together with much of the sawdust, had been thrown forward, but, singularly enough, though stunned, they were not killed by the concussion. Had there been eggs, they must, I think, have been broken to pieces. There was a considerable quantity of sawdust which had the appearance of sand, the particles being much finer than those of the nest in the birch-tree. Three birds were all the nest contained; they seemed to have been hatched about four days. As there was no hope now for them, they were put into spirits, and afterwards given with several others to my friend Mr. John Wolley, to whose suggestions the results of this expedition were chiefly due. The old birds did not exhibit the usual amount of anxiety; but just before we left, the female suddenly appeared and clung to a tree within fifteen yards of our heads, where she remained for a few moments, and then swung round to the other side, from which position she kept peeping at us, as is their wont, but without uttering the peculiar cry.

There now remained the second nest, the taking of which was still doubtful, as I was determined on no account to have the tree felled, after the results in the last instance. Noon found us all assembled, and the ladder quite ready. It was an ingenious affair, constructed of two young fir-trees joined at intervals of four feet by cross bars passing through the flanks, beyond which they projected some distance. There was neither nail nor peg in it, and the whole had been made on the spot by the woodman and his comrade with axe and borer. The length of it was about 40 feet. Nothing now remained but to rear it. This was done, after the thin end of the ladder had been placed against the tree, by means of two notched poles, which were fitted, one into either flank of the ladder, as it rested. The flanks were then gradually raised, each by two men, whilst the others pushed against the heavy end; so that as the first four increased the elevation of the ladder, the second party kept diminishing the distance between its base and the base of the tree upon which the weight was principally thrown, until the ladder itself stood at an angle of about 80° from the ground with the top round still under the hole. The woodman then went up, and announced to my dismay that there were young ones in this nest also. After satisfying myself, by inspection, of the truth of his statement, I directed him to enlarge the hole sufficiently for us to see what they were like, which he proceeded to do, after first securing the top of the ladder by means of a rope. Before this was done, the ascent was very ticklish work. The axe revealed to us four young ones, half-grown and very vicious, being well able and willing to use their bills upon intruding fingers. One was taken to secure a specimen of the bird in this stage, which was not much after all our trouble; the other three were left poking their ugly heads out of the window so unceremoniously made in their habitation. The rope was then untied, the ladder thrown down and broken, and the storming party prepared to move off to different parts of the forest according to their several destinations. The old ones meanwhile had never ceased to ring their alarm note, and angrily tap the neighbouring trees; but before we lost sight of the well-known spot, I was pleased to see the mother boldly re-enter her violated abode to comfort her astonished but undaunted offspring, who suffered, I am inclined to believe, no further inconvenience from our visit beyond a slight increase of air and light into their apartment.

Some days afterwards I returned to the very place in company with Mr. Wolley, who was desirous of visiting this wonderful Woodpecker locality, where the tall poplars have been bored on all sides during so many succeeding years. The broken ladder lay at the foot of the tree, which itself bore marks of the recent axe, but no young ones looked out upon the intruder, no old ones rang out the alarm note from amongst the neighbouring trees. The family had gone, and the forest was silent.

London, February 26, 1859.

XXVII.—*Notes on the Nesting of a pair of Eagle Owls* (Bubo maximus) *in confinement.* By Edward Fountaine.

A pair of Eagle Owls (*Bubo maximus*) have bred with me in confinement during eleven successive years.

The first nest was made in May 1849; in it were laid three eggs, the first on April 13th; three young birds were hatched and all reared.

The second nest was made in March 1850; there were three eggs laid, the first on the 10th; two young birds were hatched, which were sent to Mr. J. H. Gurney; one egg was bad.

The third nest was in February 1851; there were three eggs laid, the first was laid on the 10th; three young birds were hatched and all reared.

The fourth nest was in February 1852; three eggs were laid, the first was laid on the 10th; three young birds were hatched and all reared.

The fifth nest was in February 1853; three eggs were laid, the first was laid on the 14th; three young birds were hatched and all reared.

The sixth nest was in February 1854; three eggs were laid, the first was laid on the 20th; three young birds were hatched and all reared.

The seventh nest was in February 1855; three eggs were laid, the first was laid on the 3rd; all the eggs were destroyed, the weather being so severe. Another nest was made of three eggs in the end of the month, but, the weather still being exceedingly cold, that nest was also destroyed; no young ones were hatched that year.

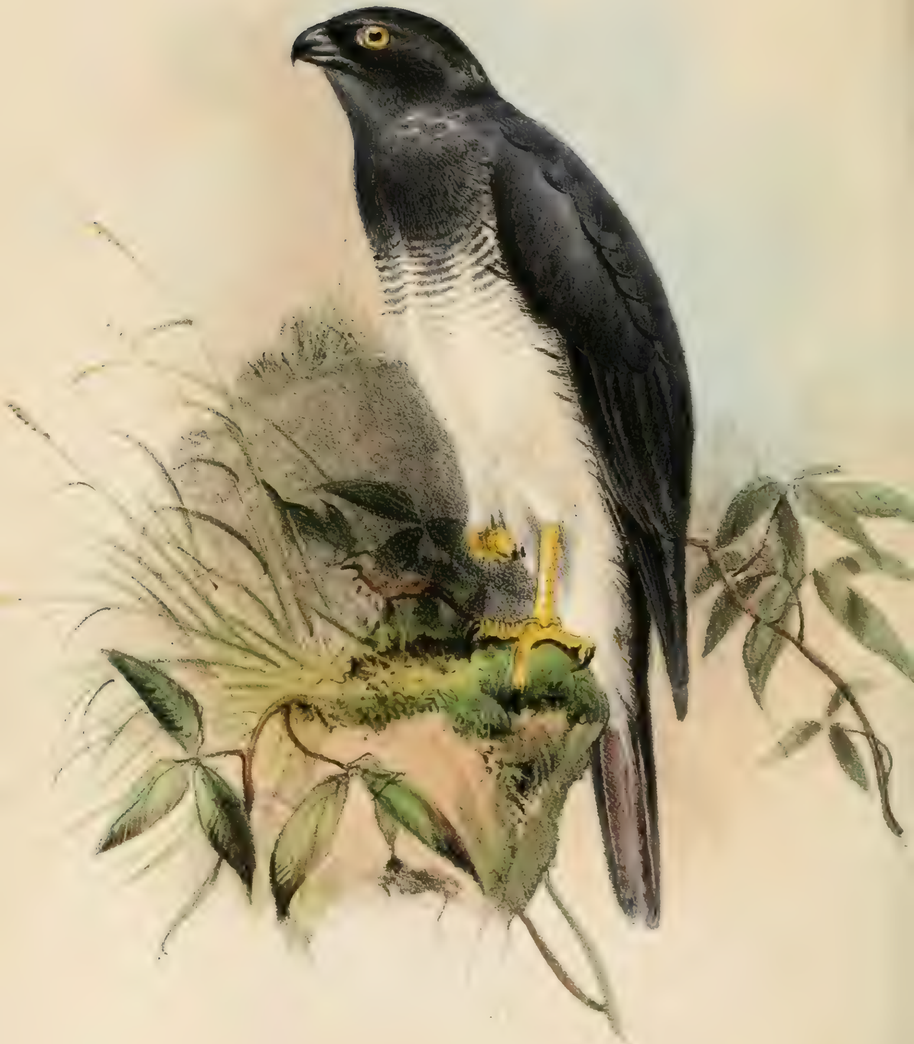
The eighth nest was in January 1856; three eggs were laid, the first was laid on the 12th; all the eggs were destroyed, the weather being very cold. Another nest was made in February; the first egg was laid on the 10th; three young birds were hatched and all reared.

The ninth nest was in January 1857; two eggs were laid; the first was laid somewhere at the end of the month, but was destroyed, the weather being too cold. Another nest was made in February; it had two eggs; both birds were hatched and both reared.

The tenth nest was in January 1858; two eggs were laid, and both destroyed, the weather being too cold. Another was made in February; it had two eggs; both birds were hatched and both reared.

The eleventh nest was in February 1859; two eggs were laid, the first was laid on the 10th. I came home and found one bird dead in the egg, the other egg was rotten. Another nest was made in April; the first egg was laid on the 13th, another on the 17th, in which state I left them, and having since been absent from home, I cannot say any more at present. I have proved that many of the first nests were destroyed, not from the coldness of the weather, but because the young birds were egg-bound; and when I was myself from home, there was no one who understood how to take them out of the shell. I could have saved the young bird this year if I had been at home. I found on one occasion a young bird egg-bound, which it took me three days to take from the shell. This bird lived and was brought up.

Three pairs of the Owls which I brought up in confinement have at different times laid eggs and sat on them, but the eggs have



[illegible]

never proved good. My original hen bird had been kept twenty years in confinement before I had her; the male bird was said to be only a year old when it came to me. The only nest made by the old Owls is a shallow hole scratched in the earth at the bottom of the cage. I have introduced a lining of short straw into the hole after the first egg is laid. The earth is scratched away from the hole by both birds; but the cock commences the operation, and performs the greater part of it. The period of incubation is thirty days, and one week usually elapses in addition between hatching the first egg and the last. The Owls are kept in a cage about eight feet square and about the same in height, and are fed on rats, rabbits, and birds.

Easton, Norfolk, May 7th, 1859.

XXVIII.—*Characters of an undescribed Species of Hawk from New Caledonia.* By Philip Lutley Sclater.

(Plate VIII.)

Mr. Gurney has kindly entrusted to me for examination some specimens of Rapacious Birds which he has lately acquired from New Caledonia. Amongst them is an example of a species of Hawk apparently hitherto unnoticed, and which I have little hesitation in considering as new. Its simple style of coloration has induced me to propose to call it

Accipiter haplochrous. (Plate VIII.)

Saturate schistaceus, capite et dorso medio nigricantioribus: nuchæ plumis intùs albis: rectricum pogoniis internis pallidè schistaceis, vittis numerosis nigricantibus subobsoletè transfasciatis: abdomine toto a pectore medio cum crisso, tibiis et alarum tectricibus inferioribus albis: pectore medio et remigum pogoniis internis subtùs albis, nigro transversim lineatis: rostro plumbescenti-nigro; pedibus aurantiis, unguibus nigris: long. tota 14·5, alæ 9·3, caudæ 6·6, tarsi 2·6.

Hab. in ins. Novâ Caledoniâ.

The single specimen of this bird sent is labelled as a female. It was killed on the island "Nu," Port de France, New Caledonia, in April 1858, and appears to have been prepared by Mr. John Macgillivray.

The nearest ally of this fine species that I am acquainted with is the *Accipiter poliocephalus* of Mr. G. R. Gray, from the Aru Islands, described in the 'Proceedings of the Zoological Society' for last year*. It is, however, quite distinct in coloration from that bird. Other near relatives seem to be *Accipiter rufitorques* †, of the Feejee Islands, *Accipiter hyogaster* ‡, of Amboyna, and *Astur trinotatus* §, of Celebes. Mr. Gurney thinks that these species, together with the well-known so-called Goshawk of New Holland (*Astur novæ hollandiæ*, Gould, B. Austr. i. pls. 14, 15), constitute a small group of stout-built Hawks, which may be considered in some degree distinct. The term *Leucospiza*, proposed by Dr. Kaup for the isolation of *Falco novæ hollandiæ*, might be employed for the subgeneric denomination of these birds. They are all remarkable for simplicity of coloration in an Order where this is the rule rather than the exception.

Besides *Accipiter haplochrous*, Mr. Gurney received three other species of Accipitres in the same collection, namely, *Haliastur sphenurus* (Gould, B. Austr. i. pl. 5), ♂ and ♀, killed at Port S. Vincent, New Caledonia, May 21st, 1858; *Astur approximans* (Gould, B. Austr. i. pl. 7), ♀ juv., from "Nu," New Caledonia, March 21st, 1858; and three examples of a *Circus*, probably identical with *Circus assimilis*, as figured in Gould's 'Birds of Australia' (i. pl. 26). The latter were obtained in Port de France and Port S. Vincent in March, April, and May, 1858.

Mr. G. R. Gray has lately communicated to the Zoological Society a "List of New Caledonian Birds," which was read at their Meeting on May 10th last; and gives a complete account of what is known of the ornithology of this island.

The accompanying figure of *Accipiter haplochrous* is by Mr. Wolf, and represents the bird reduced to one-third of its natural dimensions.

---

* See P. Z. S. 1858, p. 170.

† *Accipiter rufitorques*, Peale, Zool. U. S. Expl. Exp., Birds, p. 68; Cassin, ibid., ed. 2. p. 90, Atlas, pl. 2. figs. 1 & 2. This species is figured by M. M. Hombron and Jacquinot in Plate 2 of the Atlas of the "Voyage au Pol Sud," as "*Epervier oceanien*, ♀ ou variété"; their "*Epervier oceanien* ♂," being referable to *Accipiter hyogaster*. See Dr. Pucheran's remarks in the "Zoologie" of the same work, vol. iii. p. 48.

‡ *Falco hyogaster*, Müll. Verh. Ethn. p. 110.

§ *Astur trinotatus*, Temm. MS.: Bp. Consp. i. p. 33.

XXIX.—*On the Ornithology of Northern Africa.* By the Rev. H. B. Tristram, M.A., F.L.S. (Part II. *The Sahara.*)

[Continued from page 162.]

(Plate IX.)

Though I speak of "The Sahara" as the term is commonly used in Europe, for the great Northern Desert of Africa, yet the employment of this word in such a sense is not strictly accurate. The Arabs divide Africa north of the Line into three portions, the Tell, the Sahara, and the Desert; the Tell being the corn-growing country from the coast to the Atlas; the Sahara, the sandy pasture land where flocks and herds roam, from the Atlas through the Hauts Plateaux or Steppes, to the region where all regular supply of water fails; and the Desert, the region which extends thence almost to the watershed of the Niger—arid, salt, affording no sustenance to cattle or sheep, but where the camel snatches a scanty subsistence, and which is, excepting in its rare oases, equally inhospitable to man. It is to the feathered denizens of these vast tracts south of the Atlas that I propose to confine my observations in this paper, *i. e.* to the birds which inhabit the deserts, or resort to the various oases which I visited from 1855 to 1857.

If any reader of these remarks has formed his idea of the great African Desert from Turner's well-known picture, with its unbroken horizon line on all sides, a dying camel in the foreground, and a vulture soaring aloft the only objects to break its monotony, let him at once dispel the misty illusion. Imagine rather what the north-eastern portion of England would be if completely drained of its streams and denuded of its vegetation: wooded dells transformed into rocky naked nullahs, and tillage plains covered with a soil pulverized by the combined action of heat, wind, and attrition.

With all its monotony, the Desert has its varieties. One day you laboriously pick your steps among bare rocks, now sharp enough to wound the tough sole of your camel, now so slippery that the Arab can scarce make good his footing. Another day you plunge for miles knee-deep in loose suffocating sand-drifts, ever-changing, and threatening to bury you when you halt.

Sometimes a hard pebbly surface permits a canter for hours over the level plain amidst dwarf, leafless, dust-coloured shrubs. Perhaps on surmounting a ridge, the mirage of a vast lake glittering in the sunshine excites both the horse and his rider. On, on, gallops the wiry little steed over sand hard and crisp, and coated with a delicate crust of saltpetre, the deposit of the water, which at rare intervals has accumulated there, and formed the Chotts and Sebkhas of the Desert. Occasionally the traveller is gladdened and refreshed by pitching his camp in a Dayat, or reposing for a few nights under the palm-trees of an Oasis.

Each of these—the rocky ridges, the sand-drifts, the plains, the Chotts or salt-plains, the Dayats, and the Oases—have their peculiar ornithological characteristics. But by far the most interesting portions of these regions are, as might have been anticipated, the Dayats and Oases. The Dayat may be looked upon as an unimprovable oasis, in which there is no constant supply of water to be found at any depth, but where, from the configuration of the substratum of limestone,—it being in fact depressed into something like a saucer,—moisture gathers after the rare and uncertain thunder-storms. This moisture affords just sufficient support for a few Terebinth-trees (*Pistacia atlantica*) and wild Jujubes (*Zizyphus spina Christi*), under whose shade a scanty herbage, intermingled with such desert plants as the *Staticæ*, the *Sisymbriæ, Neurada procumbens, Bunias prostrata, Brassica lyrata, Cleome arabica, Hippocrepis comosa,* is browsed upon by troops of gazelles and a few antelopes. In the Oases, on the contrary, water may always be relied upon at a depth varying from 40 to 80 yards in the deposit of sand immediately overlying the limestone, and said by the Arabs to form underground streams, though it never rises to the surface without the aid of Artesian wells *.

Here are the winter-quarters of many of our familiar summer visitants. The Chiffchaff, Willow Wren, and Whitethroat hop on every twig in the gardens shadowed by the never-failing Palm. The Swallow and Window Martin thread the lanes and sport over the mouths of the wells in pursuit of the swarming mosquitoes; the Hoopoe solemnly stalks on every dunghill, a cherished and respected guest. The White Shrike (*Lanius dealbatus*) perches motionless on the extremity of the Palm-leaf, while a pair or more of the Egyptian Turtle-dove nestle in the centre of almost every tree; and a random shot is pretty sure to start from under the Dates a dozing "Booma," or Little Owl (*Athene numida*). These peaceful retreats seem to be rarely visited by any Raptor more formidable than the Kestrel.

---

* It is interesting to note, that the theory and practice of Artesian wells seem to have been well known to the tribes of the Desert for many centuries, as is recorded by the Arab historians.

Not so in the Dayats. Here the Golden Eagle, the Royal and Arabian Kites hold court and courtship, and carry on a perpetual, but bloodless, warfare with the Raven. The shrubs are occupied by the Shrike (*Lanius dealbatus*), small flocks of *Crateropus numidicus*, the lovely little *Ruticilla moussieri*, whom I might almost call the ornithological feature of the Dayat; whilst heard, but not seen, the Dartford Warbler chirps forth his incessant "Pittĕchou, pittchou."

If you wish to make acquaintance with the tribe of the Rock-Chats (*Dromolæa*), you must follow the Marmots to the rocky defiles of extinct streams, the 'Weds' of the Arabs. The hard gravelly plains are the homes of the Sand-grouse and the various thick-billed and stout-billed Larks (*Rhamphocorys* and *Otocorys*), while the loose sands vainly conceal the burrowing beetles from the long bills of the Ground-larks (*Certhilauda*). On the surface of the Chotts, the little Plovers and other Grallatores incessantly run along, as if awaiting the returning tide of the primæval ocean, which formerly swept over them. But, as our Editor wishes for specification, not generalization (when will he solve for us the naturalist's and the logician's *crux*, "What is a genus, and what is a species?" ?), I must proceed to details.

1. Gyps fulvus. (Griffon Vulture.) "*Nissr,*" Arab.

As, happily for the traveller, camels do not die every day under the weight of their water-skins, the Griffon does not habitually visit the Desert. Still he occasionally gives it a passing call, though, if his meal be deposited near an oasis, he is usually forestalled by the Hyæna ("*Dubba,*" Arab.), who lurks in the "Weds." On one occasion a camel in our caravan having become foot-sore had to be slaughtered on the spot, and his burden distributed among the others. Our attendants selected the tenderest morsels for 'kouskous,' the Arab broth; and it was not till the next morning that a vulture scented, or rather descried, his prey. That the Vulture uses the organ of sight rather than that of smell, seems to be certain from the immense height at which he soars and gyrates in the air. In this instance one solitary bird descended, and half an hour afterwards was joined by a second. A short time elapsed, and the Nubian Vulture (*Otogyps nubicus*) appeared, self-invited, at the feast; and before the bones were left to the Hyæna, no less than nine Griffons and two Nubians had broken their fast. I should hesitate to assert that they had satisfied their appetites. I have observed the same regular succession of diners-out on other occasions. May we not conjecture that the process is as follows?—The Griffon who first descries his quarry descends from his elevation at once. Another, sweeping the horizon at a still greater distance, observes his neighbour's movements and follows his course. A third, still further removed, follows the flight of the second; he is traced by another; and so a perpetual succession is kept up as long as a morsel of flesh remains over which to consort. I can conceive no other mode of accounting for the numbers of vultures which in the course of a few hours will gather over a carcase, when previously the horizon might have been scanned in vain for more than one, or at the most two, in sight. Does not this explain the immense number of vultures who were congregated in the Crimea during the siege of Sebastopol, where the bird was comparatively scarce before? May not this habit of watching the movements of their neighbours have collected the whole race from the Caucasus and Asia Minor to enjoy so unwonted an abundance? The Arabs believe that the vultures from all North Africa were gathered to feed on Russian horses in the Crimea, and declare that during the war very few 'Nissr' were to be seen in their accustomed haunts.

The Griffon, however disgusting his food, is by no means an unamiable or disgusting bird. He is certainly cleanly in his habits, docile, and of remarkable intelligence. With his fellows he is good-tempered; and, voracious as he is, never grudges to share the feast with as many as choose to join him. There is none of the snarling and quarrelling of the canine tribe, nor any attempt to rob a weaker cousin of his portion, nor to devour a savoury morsel in secret; but each of the company amicably keeps his place, without attempting to eject his neighbour. Yet it must be allowed that the pace at which he gobbles is 'a caution' to an American *table d'hôte.*

For some months we possessed two Griffons taken from the nest, who at length arrived safely in England. They never attempted to desert us, differing in this respect from our Lämmergeyers, but remained contentedly about the tents, or perched on the backs of the baggage-camels *en route*. They took a peculiar interest in taxidermy, scrutinizing, head on one side, the whole operation of bird-skinning, and perfectly aware of the moment when a morsel would be ready, exhibiting a more than ordinary excitement when they saw the skin drawn back over the head, and knew that the whole carcase would soon be cut off for them. One of these birds was of a desponding, querulous disposition, the other of a very different natural temperament, always contented and cheerful, a universal favourite in the camp, while his fellow received, I fear, many a sly kick for his complaints. They were able to fast for days; but, whenever such an opportunity as a camel's carcase presented itself, would be revenged on their Lent. I have seen our pet, "Musha Pasha," attack the entrails of a camel, and, as his crop became distended, sink upon his breast unable to stand, till at length, even this position being too much for him, he lay on his side still eating, until overpowered and helpless he fell asleep. This enormous capacity for food, combined with the power of long abstinence, is a wonderful provision of Creative Wisdom for carrion-feeders, whose supply is so uncertain, while the necessity for the immediate removal of offensive matter is so urgent. The strength of the Vulture's stomach is equal to its capacity, for on one occasion one of our Griffons devoured a half-pound pot of arsenical soap with no further inconvenience than a violent fit of vomiting.

I have nothing to add to the remarks of Mr. Salvin in the last Number of 'The Ibis' on the nidification of the Griffon, beyond noticing that Messrs. Sclater and Taylor have this year brought from our old nesting locality, Kef Laks, an egg which is richly coloured over its whole surface with red blotches and spots. I may remark that the Griffons we saw in the Desert always appeared to come from the north, not from the south.

2. Otogyps nubicus. (Nubian Vulture.)

This bird did not often come under my observation, but is a constant resident in the Sahara, though in very limited numbers. While the Griffon breeds throughout the Atlas, the Nubian seems to resort to more southern ranges for his eyrie. There is a breeding-place to the south-west of Biskra, in some lofty isolated cliffs, and another near the stupendous gorge of El Kantara, where I have watched these birds with the telescope. The heavier build, larger size, and short stout neck and head render this bird distinguishable at a glance from the Griffon. The plumage also appeared to me darker; but I am inclined to think that the hues of all vultures change much according to age. I noted three or four among some precipitous ridges between the M'zab country and the oasis of Waregla, in lat. 32° N., and was told by the natives that they remained there all the year. As we saw them in December, it is probable they breed in these cliffs. Their habits seem precisely similar to those of the Griffon.

3. Neophron percnopterus. (Egyptian Vulture.)

The inhabitants of the Desert are familiar with the 'Rakhma,' which is very rare in winter (I only observed one in the M'zab country), but visits all the oases, and follows the nomad camps for offal in summer.

4. Gypaëtus barbatus. (The Lämmergeyer.)

The southern limit of the 'Boulakhia' appears to be the oases of Laghouat and of Biskra, so that he only just makes good his claim to rank among the birds of the Desert. I shot one specimen in the range of cliffs behind Laghouat, and its plumage was of the richest ochreous colour I ever saw. Had he dyed his feathers in any muddy water, he must have gone many leagues for his bath. Of the many adult *Gypaëti* which I have observed in Africa, I never saw one without the rich tawny hue on the neck and under surface of the body. Either this is the true *adult* hue, or the bird of the snowy peaks of the Alps may become assimilated in colour, while in the Sahara he reflects the prevailing tints around him. The Lämmergeyer's favourite food (*reptilia*) abounds in the Desert, and his rare occurrence at any distance from the mountains is therefore the more remarkable, unless it be that he is more loath than the Griffon to exercise the powers of flight which he certainly possesses. The Lämmergeyer is, by comparison with the Griffon, a stupid bird, as well as an unsociable one; rarely more than two or three are seen together. But in its flight it is the most majestic of birds: sailing like a Falcon, he will skim for miles without any perceptible motion of the wings, stilly gliding through space till lost to the telescope; then, returning, he will turn the sharp corner of a cliff in the gorge, just bending his long cuneate tail, one wing gently drawn-in like the Falcon's, and as gently again expanded.

5. Aquila chrysaetos. (Golden Eagle.)

I never observed this bird in any of the cliffs by the 'Weds' or mountain ranges of the Desert; but in the Dayats it abounds. It might almost be said to be gregarious, especially in the Dayat of Tirehmet, a day's journey north of Berryan in the M'zab. The wood here extends over many acres; and I saw no less than seven pairs of Golden Eagles, who had each their nest. There were many other unoccupied nests; in fact, there were few Terebinths of any size without a huge platform of sticks on the topmost boughs. Many of the smaller Dayats were tenanted in like proportions. Any zealous oologist might collect in this region the eggs of 50 nests in a month, could he obtain a sufficient supply of water to enable him to remain; but the necessity of sending a four days' journey for water may preserve this colony undisturbed for many years to come. The Gazelles and Sand-grouse who resort to the Dayats are probably a sufficient supply for the Eagles and Kites who reside here, and the impossibility of finding other nesting-places may render the Eagles less tenacious of their domains. Being undisturbed, they are very fearless; and I twice walked under a tree and brought down a fine specimen with No. 7 shot.

6. Circaëtus gallicus. (The Short-toed Eagle.)

This Eagle came only once under my observation in the Desert. It was preying upon a large lizard in the Desert of Souf. The Arabs seemed, however, well-acquainted with it under its name of 'Ogab abiad.'

7. Falco sacer. (The Saker Falcon.) "*El Sakkr,*" Arab.

8. Falco lanarius. (The Lanner Falcon.)

I much regret that the extreme value set by the Arabs upon their Falcons, and their suspicion of my designs, prevented me from bringing home a specimen of the much-disputed Saker Falcon. I purchased a skin in Tunis of the *Falco lanarius*, and obtained myself the *Falco punicus* in the Desert in winter, as Mr. Salvin also did when we were together in spring. Still, I had many opportunities of observing the Lanner and Saker in a state of domestication, and occasionally saw a bird haunting the cliffs which could be none other than the true Lanner. As far as I could discover, the Lanner breeds about the Atlas range, chiefly, if not exclusively, on its southern side, while the Saker is a more truly Desert habitant.

The Arab Sheiks pursue the sport of falconry with all the zeal, skill, and science of the "noble mysterie" of our ancestors. The villein who presumed to raise his hand against the king's deer was not more certain of condign punishment from the Norman, than the plebeian Sehaur who should dare to cast a hawk in the Sahara. No Agha or Sheik of high degree ever moves for war, business, or pleasure unattended by his falconers, who are his confidential lieutenants. The care of three Falcons is considered sufficient employment for one falconer with an assistant; and on the march, one or two of these important personages follow mounted immediately behind the Sheik, with a hooded Falcon on the wrist and one perched on each shoulder. The Houbara Bustard is the favourite quarry; but eagles, kites, sand-grouse (and in the case of the Sakkr Falcon, the gazelle) afford equal sport to the huntsman. When a Bustard is descried, the whole cavalcade instantly halt, the hawk on the wrist is transferred to the hand of his master, who, attended by his falconers alone, instantly sets off, and unhooding his bird, *throws* him from his wrist towards the Bustard. Much skill is exercised in drawing the attention of the Falcon to the Bustard before it rises. Should it unfortunately take wing before its pursuer has poised herself above it, an ill-trained or impetuous bird is very apt to strike it in the air. This, according to the view of your Desert connoisseur, is a most unpardonable and unsportsmanlike offence, to be punished with death. A skilful hawk will at once rise to a considerable height, then swooping down make feints until the Bustard takes to its legs instead of its wings. The Falcon then poises herself over it while a second is flung off the wrist, and the two together give chase,—the speed of the Houbara being such that a fleet Arab can scarcely keep up with the pursuit. The poor bird runs along, aiding its speed by a perpetual fanning with its wings, its head stretched forward like a corncrake's, and its conspicuous black and white ruff folded close back over its neck,—a pitiable contrast to the proud fellow who was lately strutting with head erect, elevated crest, and expanded ruff, challenging all comers. The pursuers hang over him only a few yards above him, and at each effort he makes to take wing, swoop down with a feint. It is considered the excellency of a Falcon to make these feints at the quarry until it is nearly exhausted, when the fatal swoop is made, and the bird instantly drops, struck dead by the hind claw having pierced its vertebræ. This manner of hunting is probably practised both to afford more prolonged excitement to the horsemen, but chiefly from the singular mode of self-defence adopted by the Houbara, and which I have had various opportunities of observing myself. As the hawk approaches, the Houbara ejects both from the mouth and vent a slimy fluid *. A well-trained bird eludes this shower by repeated feints until the quarry's supply of moisture is exhausted; an impatient one rushes in, and gets his feathers and whole plumage so bedaubed, that his flight is materially impeded, and his swoop, when made, is irresolute.

With a leash of Falcons, two Haggards, and a Tiercel Sakkr, I have known three Houbaras and a Sand-grouse or two captured in a day, and the chase was terminated merely on account of the fatigue of the horses. I was never actually present at the chase of the gazelle, but it is very commonly practised, and I

---

* I have experienced, to my annoyance, a similar mode of defence adopted by the Water-Tortoise.

have seen a gazelle brought into camp that had been so taken. This sport requires, however, more birds, and is very dangerous to the Falcons, who frequently impale themselves on the horns of their prey. It is not uncommon for both pursuer and victim to fall dead at one mutual stroke.

In the pursuit of the Sand-grouse (*Pterocles setarius, Pt. arenarius,* and *Pt. guttatus*), no such dallying is allowed as with the Houbara. The covey rise, the hawk is thrown off with a jerk, another and another are thrown in rapid succession, and each singles out his own victim and strikes him in mid-air. But the same Falcon is seldom trained for both sports. The flight of the *Ganga* and *Chukhah* (as *Pt. arenarius* and *Pt. setarius* are named) resembles that of the Golden Plover, and their defence is the very reverse of the method of the Houbara. They attempt, in wheeling circles, to rise above the Falcon, and scattering at a great height often distract his pursuit, and unless the hawk has been unhooded and thrown the very moment they were flushed, they are frequently successful. The education for this chase is by means of a trained Raven, who wheels in circles over the young bird, tempting him higher and higher.

The apparatus of African falconers seems to be the same as in the olden time among ourselves—the same hoods and gloves, the same care in feeding, and the same quaint remedies and nostrums. I never was able to discover the breeding-places of the Sakkr, though I have seen the young birds in captivity scarcely fledged. The price of a well-trained Sakkr or Lanner is from 200 to 300 Spanish dollars (£40 to £60); and I repeatedly, but in vain, offered 200 dollars for one. The Sheik considers a falcon of the same value as a thoroughbred horse, and will exchange one for the other. No wonder then that I found it impossible to obtain a specimen for my collection. Indeed, it would have been a crime of the blackest dye to have shot one had I had the opportunity. The Arab holds with old Master Latham—

"A Faulcon is a Prince's pleasant sport.
'Tis sport and pleasure delightful to the eye,
Haggard hawke with mounting Lark to flie.
Amidst your pleasures then take this delight,
Maintain the Faulconer and his Faulcon's flight."

The Lanner and the Sakkr are not the only Falcons trained by the Arab noble. The *Falco barbarus,* or "Bourni," is equally esteemed for the partridge and sand-grouse, and the Goshawk and lesser Falcons are also trained.

My hawking companion and kind host the Sheik, Bou Disah, now the Agha of the Weled Mockhta, who is considered not only the wealthiest chieftain, but the most learned falconer of Southern Algeria, gave me the following account of the Falcons used for the chase.

The falconer recognizes seven sporting hawks :—

1st. El Sakkr (*Falco sacer*).

2nd. L'Abli (*Astur palumbarius,* Goshawk ?).

3rd. Et Terakél (*Falco sacer* ♀ ?).

4th. Taïr el h'ohr (*i. e.* the noble bird, the Falcon *par excellence*).

5th. El Bah'ri.

6th. El Bourni (*Falco barbarus*).

7th. Ez Zebarbach (the Hobby, *Hypotriorchis subbuteo*).

Of these, "El Sakkr," "L'Abli," and "Et Terakél" are trained for the gazelle, the bustard, and large game.

"Taïr el h'ohr" and "El Bourni" are trained for the bustard, the partridge, and the sand-grouse, as well as for small birds, but are preferred for the bustard and the hare. "El Bah'ri" is used for partridges, sand-grouse, and small birds.

"Ez Zebarbach" is used only for larks and other small birds.

Now it is not easy to assign species to these various Arab names, and it is evident, I think, that the African falconer, like the European, has been in the habit of giving distinct names to the different sexes of some at least of his hawks.

1st. El Sakk'r. This bears its identification in its name. It is an interesting proof of the extensive commerce in Falcons in ancient times, that our mediæval falconers had given to this bird a name derived, not from its peculiar sanctity, but the trivial appellation by which it was known in its native plains.

But what are L'Abli and Et Terakél? My friend Bou Disah could not point them out at the time, not having them with him on any occasion when I accompanied him, though he assured me he possessed Et Terakél in his mews at his head camp. These two he stated to be the *largest* of all the hunting Falcons. My conjecture is that Terakél is merely the female *F. sacer*, and that L'Abli is the Goshawk, which once, and once only, I saw in the Desert trained for the chase. Its owner was not a learned falconer, and could give it no other name than Taïr el h'ohr, generally used by the ignorant for all Falcons collectively, but as a specific designation applicable either to *F. lanarius* or *F. peregrinus* only. Bou Disah had with him only Sakkr, all of the same size, therefore of the same sex; but he states that Et Terakél is very like it, only larger and finer. In another part of the Desert many months afterwards I met with a Sheik who possessed seven of the *F. sacer*, all of the same size, which he called Sakkr, but which were larger than the birds of Bou Disah, and therefore I conjecture them to have been his "Et Terakél."

I subjoin the description and measurements of Bou Disah's bird, as jotted down at the time :—

Whole length 18 inches. Length of wing from carpal joint 12½ inches. Length of tail 6½ inches. Length of tarsi 1¾ inch. Wings closed to within an inch of the extremity of the tail. Feet and tarsi very pale blue. Cere the same colour, with the beak black. Irides dark brown. Chin white, with the moustache scarcely visible. The whole upper plumage a uniform slate-colour. Ten bars on the tail. The first toe 1¾ inch; hind toe ⅞ inch.

I also give a description and measurements of seven Falcons in the possession of Ali Bey of Tuggurt, in December 1856 :—

Whole length 19¾ inches. Length of wing from carpal joint 14 inches. Length of tail 7 inches. Length of tarsi 2¼ inches. Wings closed to the extremity of the tail. Feet and tarsi lemon-coloured. Cere greenish-white. Bill bluish-grey, but darker at the tip. Irides almost black. Moustache very faint and small, running ½ inch down from the eye. The throat white. The top of the head reddish ash-colour, with fine black longitudinal streaks. The breast and lower tail-coverts white with oblong slate-coloured spots. The back and upper plumage uniform slate-brown; the feathers slightly fringed with ginger-brown. The tail with ten chestnut-coloured bars. Under-wing plumage brown, with white bars.

I met at Souf, a month later, with Falcons answering the above description in every respect excepting size. They were only 16½ inches long, and no doubt the males of the same species.

4th. Taïr el h'ohr. I cannot say whether this be *specifically* the *F. lanarius* or *F. peregrinus,* which latter never occurred within my observation in the Desert.

5th and 6th. El Bah'ri and El Bourni. The latter is certainly *Falco barbarus,* as described by Mr. Salvin in 'The Ibis,' No. 2. The El Bah'ri I believe to be only the falconer's appellation for the female. I never was fortunate enough to meet with it in the field; but my informant stated it to be a long-winged Falcon, and the best of all for partridge (El Hadjel) and "Kīf-kīf Bourni khebir,"—just the same as *F. barbarus,* but larger.

7th. Ez Zebarbach is the name I have seen applied to the Hobby when trained. I believe that the *Erythropus vespertinus* (Orange-legged Hobby) is also sometimes trained under this name; or it may be *Hypotriorchis eleonoræ,* of which my informant spoke as a small "Taïr Saouda," or Black Falcon, used by some for larks.

I may mention that few Arab falconers keep their hawks over the moult, usually turning them loose in their breeding-places and securing the young ones. Hence, and from the extraordinary want of observation in the Arab, I suspect arises much of the controversy which overlies the whole question of the various species of Falcon. I should have felt inclined to have inserted, for the sake of comparison, the description of my *Falco lanarius,* had it not been procured in Tunis, and therefore not a Sahara specimen. I can only state a confident belief, not a positive assertion, that I have seen this bird in the Desert in a state of nature. If any friend feel inclined to question the accuracy of the guesses advanced in this paper, I promise him no one will be better pleased than myself to have the subject elucidated, and I will not follow old Latham's retort,—

> "If any Criticke into censures breake,
> Hee's but a *Bussard,* wee of *Hawkes* doe speake."

9. Falco barbarus. (Barbary Falcon.) "*Bourni,*" Arab.

Besides the trained birds with which I have chased the Sand-grouse, I have occasionally seen this Falcon wild on rocky precipices. My specimen I shot in December, near the M'zab country, whilst it was being pursued by a party of Ravens. It was a male in immature plumage. From the warning I received from my guides, I never ventured to offend prejudices by shooting a second specimen. The careful and able notes of Mr. Salvin in the last Number of 'The Ibis' render it needless to state more than merely the occurrence of this bird in the Sahara.

10. HYPOTRIORCHIS SUBBUTEO. (The Hobby.)

Migratory in the Desert: halting in the Dayats, apparently on its passage south.

11. TINNUNCULUS ALAUDARIUS. (The Kestrel.)

The Kestrel, identical with that of Europe, although a futile attempt was once made to separate it under the name of *guttatus*, probably from the purity of its colours under so bright an atmosphere, is abundant in every part of the Desert except the plains. In the oases he preys on the Palm Rat (*Mus chamæropsis*), which nestles in little communities in the crown of the Date-trees, or he pursues the large *Scarabæi* in the gardens. In the rocky 'Weds' he finds abundance of 'Gundi' (*Ctenodactylus massoni*), the Marmot of Africa; and in the Dayats I have often watched him pouncing upon the Jerboas as they leave their holes.

12. ASTUR PALUMBARIUS. (Goshawk.)

I saw one specimen trained for hawking, but never met with the bird in a state of nature.

13. MILVUS REGALIS. (Common Kite.) "*Hadaya Hamra*," Arab.

Abundant in the Dayats, where it breeds on trees, and preys upon the various species of Sand-grouse, living apparently at peace with the Golden Eagles before mentioned.

14. MILVUS ÆGYPTIUS. (Egyptian Kite.) "*Essaf*," Arab.

This Kite, which in the Sahara takes the place of the Black Kite (*M. ater*) of the Atlas, exactly resembles it in all its habits. I observed the same contrast between its character and that of the Red Kite which exists between the latter and the Black Kite. Sociable, fearless, and inquisitive, it approaches man far more readily than its congener; nor will the report of a gun drive it off for more than a minute or two. It hangs over the Arab camp waiting for offal, and probably counting the poultry-stock; and as scraps of burnouses and coloured cloth are scarcer in the Desert than in the mountains, it hangs about its nest, which is always in a tree, the cast-off coats of serpents, large scraps of thin bark, and perhaps a bustard's wing. Its home is certainly the marine-storeshop of the Desert.

15. Ascalaphia savignii. (Egyptian Eared Owl.)

I once found a decayed specimen of this bird which had been killed among some rocks by an Arab a few days previously.

16. Scops zorca. (Scops Owl.) "*Maroof,*" Arab.

Scarce in the Oases.

17. Athene numida. (Algerian Little Owl.) "*Booma,*" Arab.

Extremely abundant in all the Oases, and wherever the Date-palm is found. It roosts by day in the dark recesses of the Palm; but the natives state that its favourite breeding-places are down the wells, in the sides of which it burrows. I have observed the birds descend in the evening into a deserted well, though for the most part they fly high in the dusk, uttering their monotonous, but not unpleasing note, well represented by their name "Booma." The light plumage seems to be acquired by age, and the young bird is sometimes as dark-coloured as European specimens of *Athene noctua*. I have on two occasions found these dark- and light-coloured birds paired together. I should therefore have been inclined to doubt the specific distinction of the African race, were it not that in a large series of some twenty specimens they are invariably smaller than the *A. noctua*; and the same remark holds good of a series of eggs from S. Algeria compared with those from the south of France. The largest skins (♀) scarcely exceed 8 inches in length.

18. Corvus corax. (Raven.) "*Hh'rahb,*" Arab.

Plentiful in the Dayats, where it resides in communities, returning home to roost at sunset in a long file after the manner of Rooks. It seems strange, that the Raven, so solitary here, and which chases away its own progeny from its neighbourhood (unless it be grievously belied), should be so gregarious both in the mountains and deserts of Africa. Though not breeding in communities, the nests are frequently within a few yards of each other. It wages an incessant and noisy warfare with the Eagles and Kites, who share the Terebinths of the Dayats with it, and are seldom the aggressors in these skirmishes. The Raven begins in the Desert to repair his nest in December.

19. Corvus monedula. (Jackdaw.)

Extremely abundant wherever there are rocky gorges near an oasis.

20. Pyrrhocorax graculus. (The Chough.)

The Chough is very local, and known to the Arabs by the name of "*Ogreeb Hamraiah,*" the Red Crow. It came under my observation only at two very distant points on the edge of the Sahara, viz. the cliffs of Bokhari, south of Algiers, and the gorge of El Kantara, south-east of Constantine, the key of the Desert and the first of the Oases. In both these localities I obtained eggs—in 1856 at Bokhari, in 1857 at El Kantara. The Chough thus barely gains a claim to be held a bird of the Sahara, not penetrating so far south as his rival and persecutor the Jackdaw, though in winter he descends beyond Biskra to feed, returning to his cliffs at night. It is interesting to observe one of our northern coast birds in a scene so strangely different, and bearing a similar relation to the Jackdaw as he does on the English cliffs. The Alpine Chough has not yet been observed in Algeria.

21. Pica mauritanica. (Algerian Magpie.) "*El Agahg,*" Arab.

A few pairs may occasionally be seen in the northern portions of the Sahara. In habits it differs not from our Magpie, but is a most interesting species, from the singular bare spot which extends half an inch behind the eye, and is of a brilliant ultramarine blue in the living bird. The colours are not distributed exactly as in our bird, the white on the scapulars being of not more than half the extent, while the black on the breast descends down to the belly, which alone is white for the space of about 2 inches; and the bill is more slender and the tarsi longer than in the European species. There is a distinction between the plumage of the sexes which I am not aware of having seen remarked, viz. that the white on the inner webs of the first ten primaries of the wings extends much further in the male than in the female.

22. Sturnus vulgaris. (Starling.) *"Zerzour,"* Arab.

Vast flocks of the Starling resort to the Date-forests in winter, and do incalculable damage to the ripe fruit. They are snared and destroyed by thousands, being prized for food; yet there seems no appreciable diminution of their numbers, till the Date-crop is gathered and spring commences, when not a straggler remains in Africa. They are accompanied occasionally by a few individuals of

23. Sturnus unicolor. (Black Starling), which, unlike the other, is a resident in Algeria, breeding in solitary and retired spots, in holes either of trees or rocks.

24. Passer salicarius. (Spanish Sparrow.) *"Zaouch,"* Arab.

Abundant in vast flocks wherever there is moisture, and especially among the reeds in the salt marshes. At Waregla and Tuggurt, where the salt lakes are never dry, the noise of these birds is perfectly deafening, and a hundred may be, and, I am told, have been, brought down at a shot. Its habits are certainly very different from those of its familiar congener here, though in boldness and activity it rivals him. I am not acquainted with the bird in Spain; but in Africa, as a general rule, it does not affect the habitations of men, and always breeds near water in vast colonies of many thousands.

25. Passer italiæ. (Cisalpine Sparrow.)

Though having the same chestnut head as the preceding, this bird is easily distinguishable by the absence of the bright black streaks on the flanks so conspicuous in the other. Yet, though, in a series of the two, it is often difficult to draw the line, in its habits this Sparrow agrees exactly with our own, inhabiting the roofs of houses and the rafters of sheds in preference to the more distant groves and gardens. I never found it in great communities at a distance from buildings; but wherever man dwells in the Desert, there it is found his constant companion. Probably there are frequent instances of hybrids in the gardens, where both species may be found together.

26. Corospiza simplex (Temm.). (Desert Sparrow.)

This charming and characteristic little Sparrow, figured by Temminck, Pl. Col. 358, and described from Nubian specimens, was first ascertained to be a resident in the Sahara in the winter of 1856, when I obtained several examples in the oasis of Hadjira. Capt. Loche has since found it in the Wed M'zab. It is a rare bird in all its localities, living in little companies of five or six together in the outskirts of the Palm-groves among the stunted and sand-choked Date-palms, and never, according to our observation, venturing into the cultivated portions of the Oases. It is scarcely necessary to add that it is confined to the most southern limits of the Algerian Sahara. It is shy and silent, and hops from leaf to leaf more like a *Sylvia* than a sparrow, running along the ground from tree to tree, and then skulking in the heart of the Date-buds, where it probably finds its insect food. The difference in colouring between the male and female is singular, the male being of an ashy sand-colour above and white below, while the female is of a uniform rich rufous sand-colour. It is almost impossible to detect her on the ground, though only a few feet from the observer. I never found the Desert Sparrow in the open country, nor indeed more than a few yards from a tree, and I observed its habits the more carefully for several days, as I fully believed it to be a new species.

27. Erythrospiza githaginea. (Vinous Grosbeak.)

Found generally dispersed on the gravelly steppes in the north of the Sahara, but not in the sandy districts. In winter it is gregarious, and may be seen in small flocks industriously searching under every stone, or picking the buds of the Desert plants. In spring these flocks disperse, and retire to pair among the lonely 'weds' and cliffs, where they breed in holes, laying an egg resembling that of the Bullfinch, but the ground of a much deeper blue. The nest is slight, composed entirely of fine roots and fibrous grasses. In flight and general appearance at a distance the Vinous Grosbeak much resembles the Mountain Linnet.

During the breeding-season both sexes assume a brighter rose-colour than at any other period.

28. Emberiza cirlus. (Cirl Bunting.)

I have found this bird occasionally in the open plains of K'sour and Oumache, in company with the following. It seems to be only of winter passage in the Sahara.

29. Emberiza cia. (Meadow Bunting.)

Not uncommon in small bands of from six to twelve in the open country from K'sour southwards, and also all through the oasis district of the Wed R'hir, south of Eastern Algeria. I have always observed the sexes apart in winter, and the males far more abundant than the females. It is only a winter visitant to the Sahara. In habits and general characteristics it no way differs from our Yellow Bunting (*Emberiza citrinella*).

30. Fringillaria saharæ, Bp. (House Bunting.) "*Fiseeough,*" Arab.

I have ventured to call this the *House* Bunting, both from its habits and its local name in the M'zab country. It is almost confined to the southern Oases. The older catalogues gave *Emberiza striolata* as an Algerian species. Now, however, *Fringillaria saharæ* is added. It ought rather to be *substituted,* as there is but one species yet found in the country. The distinctions between the *E. striolata* of Rüppell and the *Fringillaria saharæ* of Bonaparte are very slight, and seem scarcely to mark more than a local variety. In *F. saharæ* the white line behind the eye is smaller and fainter, the striated markings on the head are rather smaller, and the whole plumage of a more tawny hue, while the back does not exhibit the faint black marks down the centre of each feather. I have before me a series of M'zab specimens, and two of *E. striolata,* from Abyssinia, collected by A. Brehm.

The House Bunting is deservedly a great favourite, from its lively familiar habits and its cheerful song. Few houses in the city of Ghardaia are without a pair or two of these little songsters in their courtyard, and throughout the winter (if winter it may be called) the male, perched on the top of the balcony, continues his warbling from sunrise till nearly noon. His voice, though not so strong, is quite as varied and mellow as that of our own common Linnet, to which it bears considerable resemblance in tones. Our habitation was merely an open shed on one side of a courtyard, and frequently these Buntings would perch on the opposite side during meals, and at length the boldest of them summon courage to hop across the court and pick up fragments of "couscous" at our feet. It builds both in holes in walls about houses and gardens, and also in rocks. I have found the nest in process of being built, in El Kantara, in April, though I never succeeded in obtaining the eggs.

31. Monticola cyanea. (Blue Rock-Thrush.) "*Tuttow Khifan,*" *i. e.* Rock-Thrush, Arab.

Few spots where there is any vegetation are without a pair of these shy and wary birds, who may be detected dropping like a Wheatear behind a rock in a ravine, or perched on the mud wall of a palm grove, the male occasionally rising and hovering like a lark at some height during his song, which is, however, more frequently chanted from the top of an isolated rock. It occasionally perches on bushes, and, as a songster, possesses organs of voice of not less power, compass, and variety than our own Song-Thrush.

32. Monticola saxatilis. (Common Rock-Thrush.)

Decidedly a scarcer bird in the Sahara than the former, more shy and wary, and resorting only to the higher grounds. In the upper portions of the Atlas it is more plentiful; but I have only seen it three or four times in the Desert, and then only on such elevated situations as the summits of the Chebkha M'zab.

33. Dromolæa leucura. (Black Wheatear.) "*Bou Haoud,*" Arab.

The Chats are the tribe of all others most universally distributed in the Desert, yet having specifically very narrow limits. They are, too, the only class of birds there who have any distinctive or conspicuous colouring. The Larks of various species or the Sand-grouse may be on all sides, yet only a practised eye can detect a sign of life in the waste. But the lively Chat is seen afar; his clear bright colouring gleams in contrast with the universal brown around him. Conscious of his attractions, he attempts no concealment, but relies for safety on his watchful eye and rapid movements, and, above all, on the snug retreat which he always has open before him—his hole in the rocks or his burrow in the sand. I think that those who are familiar with the habits of this class will at once admit the propriety of Cabanis' separation of the genus *Dromolæa* from the old one of *Saxicola*. Strong as are the structural affinities throughout the whole, the manners of the living birds are in marked contrast. Wherever there are savage ravines, bare cliffs reflecting a burning glare on the hungry valley, rent chasms, fearful in the unspeakable stillness which pervades the transparent atmosphere around, gorges which strike the intruder with awe, as though life, vegetable or animal, had never dared to intrude there before, even here may a pair of Rock-Chats of some species or other be detected. If a snap shot has been successful, the victim generally contrives to escape into some deep fissure to die; and frequently it is impossible to recover the spoils. *Dromolæa leucura* is found only in the north of the Desert. El' Aghouat may be considered its southern limit; and it alone of the class comes up to the foot of the Atlas, on the southern slopes of which it is tolerably abundant from Morocco to Tunis, breeding among the rocks, building a compact nest of moss and hair, and laying ordinarily four eggs, somewhat larger than those of the Wheatear, of a rich deep greenish blue, covered towards the larger end with rust-red blotches and spots. Its song is monotonous, consisting of but three notes; but the call-note is clear, loud, and musical.

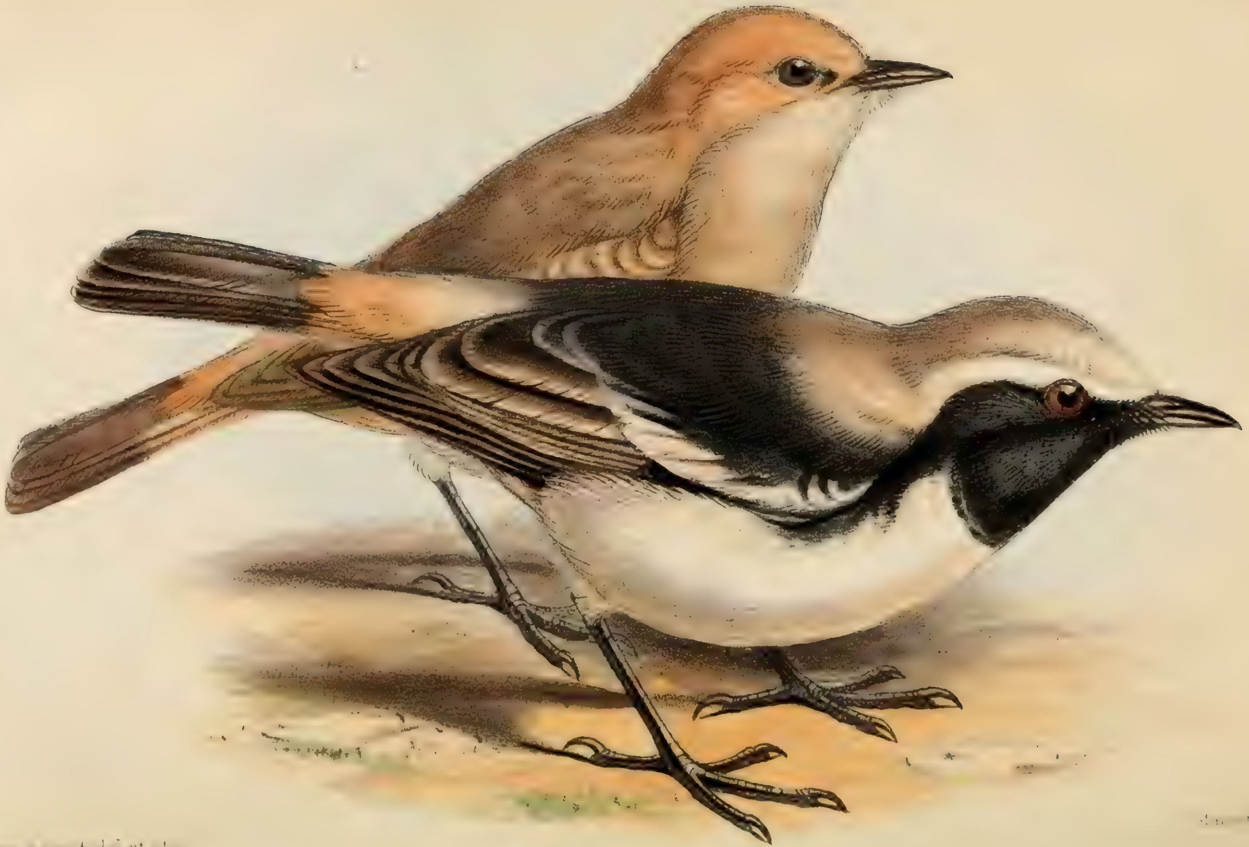
34. DROMOLÆA LEUCOPYGIA (Brehm, Cab. Journ. f. Orn. 1858, p. 66). (White-rumped Rock-Chat.)

Of this bird I had prepared a description as of a new species, under the very name given to it by Brehm, before I was aware that he had already published it from Nubian specimens in Cabanis' Journal,—a lesson this to naturalists not to allow a year and a half to elapse before making public their discoveries; for I had obtained a series of specimens a twelvemonth before

Brehm received his birds from Nubia. This species differs from *D. leucura* in having the whole tail white, with the exception of the lower portion of the two centre feathers, while the vent and the lower portion of the back are snowy white to the extent of three inches from the extremity of the tail. The whole of the rest of the plumage is glossy black, instead of the rusty colour characteristic of *D. leucura*; and the bird is in all its proportions more slender and a little smaller. In its habits it no way differs from its congener. It never approaches the north of the Sahara, and is strictly confined to the 'weds' or dry ravines of the M'zab country.

35. DROMOLÆA LEUCOCEPHALA (Brehm, Journ. f. Orn. 1858, p. 62). (White-headed Rock-Chat.)

This bird I also procured in considerable numbers in the southern portion of the Sahara in 1856. It was first described by Brehm in 1858, from Nubian specimens. I have compared mine with one of Brehm's type specimens, and the only distinction I can perceive is that the white of the Algerian bird extends a little higher up the back. It only differs from *D. leucopygia* in having a snow-white head. There is a narrow band of black just above the nostrils extending over the eyes. The rest of the forehead, crown, and down to the nape of the neck are white. The whole under-plumage glosssy black to the vent, which, with the under tail-coverts and the extremity of the feathers about the thighs, is snow-white. Neither in this nor the preceding bird is there the slightest difference between the sexes in plumage. This Rock-Chat has a further range east and west than *D. leucopygia*, and is far more abundant in its localities, but does not come so far north. Closely as it resembles it, I never observed the two species together. It is very pugnacious, and lives all the winter in pairs, each couple preserving its own domain undisturbed. I have watched a male perched on a point of a rock, with his white tail expanded like a fan, and perfectly erect, whistling loud defiance to a rival at the other side of the ravine. The challenge is speedily taken up, and they advance nearer each other, till, after a very short encounter, they retire to their respective sides. No doubt the scarcity of their insect



John Jennens, ad nat. del. et lith.

[illegible]

SAXICOLA PHILOTHAMNA, Tristr. ♂ ♀

food compels the Rock-Chats to distribute themselves very sparsely.

This bird has been mistaken by Capt. Loche in his catalogue for *Dromolæa monacha** of Eastern Africa, from which it is quite distinct.

36. Saxicola philothamna †, Tristram, Ibis, 1859, p. 58. (Bush-Chat.) (Plate IX. fig. 1 ♂, 2 ♀.)

I have some doubts as to whether this bird should not be placed among the *Dromolææ*, from its structural characters. But though the largest of its genus, it is in all its habits certainly a *Saxicola*, and not a Rock-Chat. I have, therefore, proposed to allow it to remain in the old genus. I first met with it near the caravanseray of Aïn el' Ibel, a day's journey north of El' Aghouat, and thenceforward until our approach, in the following spring, to the Tunisian frontier it occurred sparingly at intervals, wherever the nature of the country afforded scope for its peculiar habits. I found it near the Dayats of El' Aghouat, near Waregla, and far to the north-east at El Mari'er, south-east of Biskra. It is a constant resident and a very early breeder in those portions of the Desert which are composed of loose sand studded with low stunted bushes. Among rocks or in the Salt-districts I never detected it. It perches, like the Whinchat, on the top of a bush, uttering incessantly a very similar note. The male and female are constantly together, and on being alarmed take refuge sometimes in flight, but more generally disappear into a burrow in the sand. The first I shot vanished in a moment, and though certain he had fallen, I was compelled to relinquish my search. The second disappeared as mysteriously; but observing a drop of blood at the entrance of what seemed to be a small lizard's hole, I dug down, and, after a quarter of an hour's excavation, recovered the bird, quite dead. At this moment the female issued from another hole close by, and escaped. On further search, I found a small chamber with last year's nest, and another passage out, by which the remaining bird had escaped. The Arabs say that they use old snake-holes, and make a second exit themselves, for security from the large carnivorous lízards, which are their great enemies. The retreat is always just under a bush, no doubt for the sake of greater consistency in the sand, which otherwise would certainly fall in and choke the inhabitants. I found new nests in process of construction as early as January. The fragments of old eggs which I picked up are, as might have been expected, of a blue colour. There is, as will be seen from the Plate, a remarkable difference in plumage between the male and female, thus referring it rather to *Saxicola* than to *Dromolæa*.

---

* Figured in Temminck's Pl. Col. 359. fig. 1.

† This species is certainly the same as Loche's *Dromolæa isabellina* (Cat. Mamm. et Ois. p. 64), as testified by his marked specimens; but it is not the bird to which Temminck and Rüppell have given that specific name. Dr. Hartlaub, to whom we sent a copy of the figure, with a request to assist us in identifying it, informs us that the female is marked *S. ruficeps*, Buvry, in the Berlin Museum.—(Ed.)

37. Saxicola œnanthe. (Wheatear.)

38. Saxicola stapazina. (Stapazine Chat.)

39. Saxicola aurita. (Eared Chat.)

These three Chats occur in the northern portion of the Hauts Plateaux, but are merely winter visitants.

40. Saxicola lugens, Licht. *S. leucomela*, Temminck, Pl. Col. 257. (Mourning Chat.)

This bird, in habits very like *S. philothamna*, but less confined to the bushy portions of the Desert, does not appear to come so far north even as the M'zab country. It dwells in the boundless deserts of the Touareg, south of the furthest French imaginary line. It was only here, and in the Chamba country, south-west of Waregla, in lat. 30° 50′, that I obtained specimens. It is very shy, and possesses great powers of flight.

41. Saxicola deserti, Rüpp. (Desert Chat.)

In the general distribution of its colours this Chat very much resembles the *S. stapazina*, but the bill and tarsi are at least half as long again, and the black of the throat extends much further, the rufous head and back being exchanged for a more sombre isabel colour. There is no sexual distinction of plumage. Like the last-described, it is restricted to the south of the Sahara, but resorts to the level, shrubless Salt-plains, hopping along the sand, and when alarmed continuing its flight to a considerable distance. It was obtained in the dreary desert between Guenara and Hadjira, and also in the Chotts near Tuggurt. It breeds in burrows.

42. Saxicola halophila, Tristram, Ibis, 1859, p. 59. (The Salt-loving Chat.)

Like the preceding in its habits and localities, but apparently occurring only in the eastern and Tunisian portions of the Sahara. The general tone of plumage somewhat resembles that of *S. philothamna,* to which in its perching and burrowing habits it bears affinities. There is a peculiar silky texture in its loose plumage, which I have not observed in other Chats. It is shorter, but more robust than the *S. stapazina,* and wants the dark back, throat, and shoulders of *S. philothamna.* Its inconspicuous cinnamon head and back render it very difficult to detect, either on the ground or perched on a tuft of Desert-rush. On the first occasion on which I met with it, the chase cost me an hour's pursuit before I could get within shot, the little fellow keeping quietly but constantly about a hundred yards ahead. There is very little difference between the sexes in plumage, the female being without the dark cheeks, and rather fainter in general coloration.

43. Saxicola homochroa, Tristram, Ibis, 1859, p. 59. (Solitary Chat.)

The smallest and most inconspicuous of its class, exiled to a region where none others exist. In the restless sand-drifts of the Desert of Souf, and the '*Dunes de sable*' which roll and rise beyond the Tunisian Djereed, is the home of this solitary and melancholy bird. While toiling through this weary Sand-ocean in a three-days' journey, this and *Galerida arenicola* were the only living things that crossed our path. With the exception of its dark-brown primaries and rectrices and dull-white tail-coverts, it is of a uniform pale sand-colour. The sexes are identical in plumage. It sits at the edge of a sand-drift, and as the shelving sides crumble down with the wind, it seems to search for its food in the debris.

[To be continued.]

XXX.—*Five Months' Birds'-nesting in the Eastern Atlas.* By Osbert Salvin, B.A., Corr. Memb. Zool. Soc. (Part II.)

[Continued from p. 191.]

21. Caprimulgus europæus. (Goatsucker.)

While we were encamped at Kef Laks, an Arab brought to the tents a Goatsucker, half-dead. This was the only occasion on which I met with this bird.

22. Cypselus apus. (Swift.)

On the 8th of March, I saw a single bird of this species flying over the city of Tunis. I did not observe it again until reaching Algiers, where it occurred in plenty.

23. Cypselus melba. (Alpine Swift.)

This species is more commonly seen about the plains of the Salt Lake district than in the more mountainous parts of the country, though in the latter it is by no means of unfrequent occurrence. At Kef Laks I was vain enough to attempt to shoot some specimens on a windy day; though they frequently came within shot, their pace was so great, that I totally failed in my object, and only succeeded in firing my gun two or three times. The Alpine Swift breeds in most of the rocks of the country; but we did not procure any of its eggs.

24. Hirundo rustica. (Swallow.)

I found several pairs of these birds at the caravanseray of Aïn Yacoute, on the road between Constantine and Batna, where they had their nests among the rafters of an open shed.

25. Chelidon urbica. (Martin.)

In the first week of March I saw several Martins at Sousa, and others subsequently at Tunis.

26. Cotyle riparia. (Sand Martin.)

On one or two occasions, I observed birds of this species on the road between Tunis and Kef during the third week in March. I never saw others subsequently.

27. Coracias garrula. (Roller.)

About the wooded hills that skirt the elevated plains of the Eastern Atlas, the Roller may not unfrequently be met with.

In these districts it breeds in the month of May, choosing for the position of its nest a hollow in a tree, and usually preferring one that has a side entrance. In this the eggs are deposited on no softer nest than that which the chips of dead wood at the bottom afford. The Arabs used frequently to catch the birds in their holes and bring them, eggs and all, to us. Their local name is "*Shrugwrug*," derived from one of the cries of the bird, which it well expresses.

28. MEROPS APIASTER. (Bee-Eater.)

The first time I observed this species was towards the end of April, at Kef Laks, where a flock, apparently just arrived, passed over my head. It is plentiful about Djendeli, and breeds, boring the hole for its nest, in banks of the river Chemora and the ditches that drain the low land near the lake. There the soil is alluvial and soft, and the bird finds little difficulty in making its excavation. During our stay, I took several nests, and latterly became an adept at knowing at once which holes were tenanted, and where and when to dig. A little circumspection is necessary at first; for not unfrequently the occupant of the hole is not a Bee-eater, but a toad or snake. The scratchings made by the bird's feet in passing in and out, and the absence of fresh earth beneath the orifice are generally sure indications of the excavation having been completed, and consequently of a strong probability that there are eggs within. The holes pierced by this bird usually consist of a horizontal passage about three or four feet long, the entrance being at various heights from the level ground. This passage, from a circular opening, is gradually enlarged horizontally till it arrives at a chamber of about a foot in diameter, and domed over. In this chamber the eggs are frequently deposited. Should, however, none be found, it is necessary to feel all round the chamber; and in many instances another passage of about a foot long will be found communicating with a second chamber in all respects similar to the first, in which, if it exist, the eggs are placed. The bird makes no nest; but the floor of the chamber is strewn with the legs and wing-cases of *Coleoptera* in such abundance that a handful may be taken up at once. In most instances, I caught one of the old birds in the chamber containing the eggs; while the hole was being enlarged, it would, every now and then, attempt to escape. The eggs are laid early in June, and are usually six in number. The flight of the Bee-eater is somewhat like that of a Swallow (*Hirundo rustica*), though its movements are much slower; and it is frequently to be seen perched on a bush. Its cry is harsh and monotonous.

29. Upupa epops. (Hoopoe.)

The Hoopoe was abundant about Djendeli when we were there. In every direction in the wooded hills of this district, the cry from which the bird takes its trivial name might be heard; but, common as it was, we never obtained a single egg.

30. Calamodyta locustella. (Grasshopper-Warbler.)

Every night while we were encamped near the Marabout of Sidi Khalifa Cherif, I used to hear the peculiar cry of a member of this genus. On one occasion I saw, at the same place, a bird which I considered at the time to have been a Grasshopper-Warbler. The place appeared ill-adapted for this fen-loving bird, being dry and sterile; but from the fact of its being found in England in fens, woods, and moors indiscriminately, it would seem that the cover afforded by the sedge, rather than the moisture of the situation, is what is sought for by the bird.

31. Calamodyta luscinoïdes. (Savi's Warbler.)

I found this bird abundant in the marsh of Zana. On approaching the margin of the reeds, its peculiar rattling note might be heard in every direction. The bird, when uttering this cry, climbs to the very top of a reed, often choosing the tallest, where it sits, if not disturbed, for several minutes, without changing its position. When singing, the head is moved slowly from side to side, by which means it may be that the ventriloquism ascribed to the Grasshopper-Warbler is produced, —the apparent change of position of the bird being, in fact, a change in the direction in which the sound of its voice is thrown. On taking alarm, the songster drops instantly into the thickest sedge, when pursuit is hopeless, as it carefully eludes observation, never showing itself in open flight; sometimes, however, its course may be traced by the shaking of the reeds as it springs from one to another. The peculiar nest of this species—a beautifully-compact structure composed entirely of dead flag—is artfully concealed in the thickest parts; and at Zana it can only be found by wading in mud and water up to the middle, and even then it is quite a chance to find one. The eggs from this locality are decidedly smaller than English and Dutch specimens.

32. Calamodyta cettii. (Cetti's Warbler.)

On one or two occasions, among the tamarisk-trees on the banks of the Chemora, I caught a momentary glimpse of a bird of this species—not more than was sufficient to recognize it. It appears to be shy, and not common in the Eastern Atlas.

33. Calamodyta aquatica. (Aquatic Warbler.)

At the head of the little marsh of Aïn Djendeli I more than once observed a pair of this Warbler. We afterwards found it more abundant at Zana, where it was breeding. In its habits it much resembles the common Reed Warbler (*C. arundinacea*); the eggs also are similar.

34. Calamoherpe turdoïdes. (Thrush-like Warbler.)

The commonest species of the *Sylviinæ* in the marsh of Zana, where its incessant note, day and night, assails one's ears. It breeds abundantly amongst the taller reeds.

35. Pyrophthalma melanocephala. (Sardinian Warbler.)

This is one of the most striking of the smaller species in North Africa. About Tunis and elsewhere in the Regency it is common, and extends along the ridge of the Atlas to Souk Harras, where we lost sight of it on entering the less wooded and more sterile portions of the mountain chain.

36. Sylvia cinerea. (Whitethroat.)

Observed during the first week in April between the foot of the rock of Djebel Dekma and the river Medjerda.

37. Sylvia conspicillata. (Spectacled Warbler.)

A true inhabitant of the Salt Lake districts, where it is found abundantly, frequenting the low shrubs that cover the uncultivated portions of that region. It is a shy and wary bird, and carefully eludes observation by skulking from bush to bush as one approaches. In the above-mentioned shrubs it builds its nest, making a loose but neat structure of dry grass with a scanty lining of horsehair. The eggs in one nest seldom exceed four. The Arabic name is "*M'zizzee.*"

38. Sylvia orphea. (Orphean Warbler.)

This is a tolerably common bird about the wooded hill-sides of Djendeli, where it usually breeds, though we sometimes obtained nests from the tamarisk-trees in the plain. Its nest much resembles that of the common Blackcap (*S. atricapilla*), but differs in being more compact and thicker; the position in the branch of the tree selected is usually similar. The note of this bird is pleasing, but hardly so much so as to entitle it to the name of the Orphean Warbler.

39. Hippolais polyglotta. (Latham's Pettychaps.)

A very common bird about the Chemora, where we found it breeding in the tamarisk-trees.

40. Phylloscopus rufus. (Chiff-chaff.)

This was the first bird I heard on landing at Philippeville before proceeding to Tunis. It appears to winter in Algeria. I obtained specimens near El Djem in March.

41. Phylloscopus trochilus. (Willow Wren.)

During the month of March I shot more than one of this species in the Regency of Tunis.

42. Phylloscopus sibilatrix. (Wood Wren.)

I shot a single specimen of this bird (the only one I saw) in May, near where the Chemora empties itself into Lake Djendeli.

43. Saxicola œnanthe. (Wheatear.)

A specimen of this bird was shot near Zana in June.

44. Saxicola leucura. (Black Wheatear.)

More abundant about the Djendeli district than elsewhere. It appears to be an earlier breeder than other *Saxicolæ*, as young were found at the end of May in an advanced stage.

45. Saxicola aurita. (Eared Wheatear.)

The favourite resort of this species is among the stony ground at the foot of the hills; and in such places it may be looked for, and generally found. Roman ruins also are much frequented. We obtained two nests from the Madracen, where they were placed in the interstices of the stone of that building. Usually the nests were close by, or under a large fragment of rock.

46. Saxicola stapazina. (Russet Wheatear.)

Is found in similar situations to those of the last, and appears equally distributed over the same districts. No difference is noticeable between the eggs of this and the former species. The Arabic name for all the Wheatears is "*Millil.*"

47. Pratincola rubicola. (The Stonechat.)

By no means uncommon in the mountainous districts.

48. Saxicola rubetra. (The Whinchat.)

Also common in localities similar to the last.

49. Ruticilla moussieri. (Moussier's Redstart.)

This species, which is peculiar to North Africa, is perhaps one of the most interesting in the Regency of Tunis and Eastern Algeria, where I had the pleasure of observing it. Its favourite resorts are the ruins of the old Roman cities which lie scattered in all directions throughout this district, and the loose rocky ground which skirts the plains at the foot of the surrounding hills. When visiting such spots, the bright plumage of the male, as he glides from stone to stone, is one of the first objects that attract the attention. The note uttered by the male during the breeding-season is peculiar; and, unlike that of any of its congeners, it is monotonous, but not unpleasing. This bird seems intermediate between the Stonechats and Redstarts; but I am inclined to consider that it is more closely allied to the former than to the latter: the character of the plumage of the male would lead one to this supposition; and its habits, actions, and nest tend rather to confirm the idea. The eggs, which are white with the faintest tinge of greenish-blue, only indicate its connexion with the whole group, including the Wheatears; and, as in the case of the eggs of *Saxicola œnanthe*, I have no doubt that spotted varieties occur. On observing the eggs of the

Saxicolæ and *Ruticillæ* mentioned in this paper, an intimate relationship can be traced between the whole. In the first instance, take the richly-coloured and highly-marked eggs of *S. leucura*, *S. aurita*, and *S. stapazina*, all of which are greenish-blue, with decided spots of red-brown; next to them I would place those of *S. rubetra*, which are similarly marked, but not so deeply; then those of *S. rubicola*, which also are spotted, but more indistinctly; next follow the pale, delicately coloured eggs of *S. œnanthe*, in which a tendency to spotted varieties is not unfrequently noticeable; then come the eggs of *R. phœnicura*, among which spotted varieties occur, but not so commonly as in the preceding. Those of *R. moussieri*, with their just traceable colouring, follow next in succession; and lastly, those of *R. tithys*, which, though white, and differing widely from the well-marked eggs of *S. leucura*, can still be connected with the series through the medium of *S. œnanthe* and *R. moussieri*.

The Arabic name for this bird is "*Zinzuck*."

50. Ruticilla phœnicura. (Redstart.)

I met with this species near El Djem, in the south of the Regency of Tunis, at the end of February.

51. Ruticilla tithys. (Black Redstart.)

Not an uncommon bird near Tunis and many of the villages of the Regency; but it would appear to be more rare in the mountainous districts, as I have no note entered of having observed it.

52. Erythacus rubecula. (Robin Red-breast.)

I shot a Robin near Sousa in the beginning of March. I never saw another during my whole stay.

53. Philomela luscinia. (Nightingale.)

I observed Nightingales in a wooded ravine near Khifan M'sakta, in the early part of April. In the Salt Lake districts it does not seem to occur.

54. Aëdon galactotes. (Rufous Sedge Warbler.)

The head-quarters of this bird seem situated in the Salt Lake districts, where we found it abundantly through the months of May and June. It does not appear that marshy ground is an indispensable requisite to their haunts; for I observed it not unfrequently in the arid district of Guerah el Tharf. In the map, this lake looks a magnificent piece of water; but it is in reality what most of the places similarly laid down are, viz. a wide expanse of sand covered with saline incrustation, which only in peculiarly wet seasons is flooded with water. There nearly always exists in most of these sandy plains a great amount of evaporation, which, with the white saline matter on the surface, at a distance of a few miles gives all the appearance of a turbulent lake. Indeed, so perfect is the deception, that on arriving at Aïn Beïda, we supposed that, when looking on Guerah el Tharf, we had in view a magnificent lake; and so we continued to believe it, till a morning's ride destroyed the illusion. Subsequently I saw many other instances of mirage, in some of which the hills, clouds, and all the surrounding objects were perfectly reflected. Near Aïn Djendeli, I used frequently to notice the present species about the trees that overhang the dry stony water-courses that run from the hills into the plain beneath. We never found a nest, however, in one of the above-mentioned places; and it would seem that the bird prefers a moister soil for its breeding-haunts, such as is afforded by the lowlands near lake Djendeli, where the Tamarisk-trees grow on the banks of the Chemora and the small Aïn or spring. The nest we found usually placed conspicuously in the fork or on a branch of one of these trees, and with apparently no attempt at concealment. The heights at which the structure is placed vary from one to six feet from the ground. In one instance I found a nest among the roots of a tree in a bank-side, in a place where one would have expected in England to have found the nest of a Robin. The materials employed are the dead shoots of the Tamarisk, which form the outside,—the inside and lining being usually coot's or duck's feathers, mingled with wool or camel's hair; and in nine cases out of ten, a small piece of serpent's skin is loosely placed in the bottom of the nest*.

The number of eggs varies from three to five. They are laid about the third week in May.

---

* I have since observed other instances of serpent's skin similarly used. As to what object the bird has in view in employing such material, I can form no conjecture.

In its habits this bird is shy, and is careful to elude observation. When it alights on a twig, it expands its tail, and shows the peculiar markings which terminate each feather. While holding it thus extended, it raises it once or twice, somewhat after the manner of *Copsychus macrurus,* a bird which must be familiar to all who are acquainted with the New Aviary in the Gardens of the Zoological Society. I may here remark that the eggs of *Aëdon galactodes* are not to be distinguished from those of *Anthus rufescens,* a bird equally or perhaps more common in the same districts in the Atlas: so that eggs ascribed to this species from that country, without undeniable proof that they are what they profess to be, can only be received with great doubt, and are in fact valueless to a collection. Among the Arabs of Djendeli this bird is known as "El Hamara"—"the Red Bird."

55. Parus ultramarinus. (Ultramarine Titmouse.)

This highly-coloured representative of our common Bluetit (*Parus cæruleus*) is abundant in all the wooded districts. In the mountains it may not unfrequently be observed about the shrubby vegetation which clothes many of the precipices. In its habits, as might be expected, it much resembles our familiar species. I never saw *P. ledouci,* nor have I any note respecting *P. major,* which latter species is said to be common.

56. Budytes flava. (Grey-headed Yellow Wagtail.)

This Wagtail I observed at Kef Laks, apparently on passage. It afterwards occurred in plenty at Zana and Aïn Djendeli. It appears local in its distribution, but common where it is found.

57. Motacilla alba. (White Wagtail.)

Common about Tunis in February, but not afterwards observed.

58. Anthus pratensis. (Meadow Pipit.)

I shot one specimen of this bird at Kef Laks in April.

59. Anthus rufescens. (Tawny Pipit.)

Towards the end of April I first observed this Pipit, when I collected some specimens on the plateau of Kef Laks. We afterwards found it abundant about the plains of Djendeli, from which district we obtained its eggs. These vary much, some being light-coloured and almost like Wagtails', while others are much darker and more profusely marked. The nest is composed of roots, with a lining of horsehair, and is placed on the lee side of a bush, the prevailing wind being from the north-west.

60. Turdus viscivorus. (Misseltoe Thrush.)

On passing through the Waregra country, near the Tunisian frontier, I shot several of these birds, and saw others.

61. Turdus merula. (Blackbird.)

The Blackbird is common in the wooded parts of Tunis. It appears to be a resident in the Eastern Atlas, as we obtained several nests near Souk Harras.

62. Turdus musicus. (Thrush.)

Common all over the plains about Tunis in February.

63. Monticola saxatilis. (Common Rock-Thrush.)

This Rock-Thrush does not appear to be nearly so common as the Blue Rock-Thrush in the districts we visited; indeed, except on one occasion, at Kef Laks, I have no instance noted of having met with it.

64. Monticola cyanea. (Blue Rock-Thrush.)

In all the mountainous parts and rocky passes, the Blue Rock-Thrush occurs; and in such places one may seldom listen in vain for the plaintive notes of this beautiful songster. We were unsuccessful in obtaining their eggs, though many pairs must have had their nests within easy reach of our different camps while we remained in the mountains.

65. Ixos obscurus. (Dusky Bulbul.)

I shot a pair of these birds near Kef Laks. I found them near the bank of a small wooded stream that runs in the valley on the south side of the plateau. My attention was first attracted by the rich song of the male bird; and after waiting a short time, I succeeded in obtaining both it and the female.

66. Muscicapa luctuosa. (Pied Flycatcher.)

This bird is not uncommon about Souk Harras, but is more rare in the Salt-lake districts.

67. Lanius meridionalis. (Great Grey Shrike.)

This Shrike seems confined in its range to the northern slope of the Atlas, whilst its place is occupied in Tunis and on the southern watershed by *L. algeriensis.* I found a nest at Foum el Hameer, on the borders of Guerah el Tharf, and endeavoured to obtain the bird, but did not succeed; however, as I was pursuing it, I was enabled to see that it was this, and not the next nearly allied species.

68. Lanius algeriensis. (Algerian Grey Shrike.)

I frequently met with this bird in Tunis, at Sousa, and other parts of the Regency, but lost sight of it on ascending the Atlas range.

69. Lanius rufus. (Woodchat Shrike.)

Is everywhere abundant in Eastern Algeria and Tunis. It breeds in great numbers on the hill-sides in the neighbourhood of Djendeli, making a nest composed almost entirely of one material, viz. a small grey flower, which the bird collects with the stalk, and entwines into its nest, employing the same for the lining. The whole structure is beautifully neat and compact.

70. Garrulus cervicalis. (Algerian Jay.)

I saw this bird on several occasions near Souk Harras, but lost sight of it on passing to the less-wooded country.

71. Pica mauritanica. (Moorish Magpie.)

This Magpie is common in the Eastern Atlas; we found it breeding at Djendeli, where it frequented the wooded hills, and built in the Terebinth trees. The eggs are laid about the third week in May, but some earlier, as young birds were brought to us before the end of that month.

72. Corvus corax. (Raven.)

The Raven we found abundant everywhere. It was no uncommon sight to see twenty or thirty birds at one time. They build in every available cliff. All the eggs of *C. corax* from this district are remarkably small in size.

73. Corvus monedula. (Jackdaw.)

Common in many parts, especially about the cave at Djebel Dekma.

74. Pyrrhocorax graculus. (Chough.)

About the hills that surround the plain that holds the marsh of Zana, I not unfrequently used to observe the Chough. While we were staying there, a Frenchman shot one, which proved to be this species, and not *P. alpinus.*

75. Sturnus unicolor. (Sardinian Starling.)

I have no note respecting the Common Starling; but as it is said to occur commonly at Tunis during the winter, I, doubtless, omitted to remark it. The present bird I saw at Kef in the Regency of Tunis, subsequently at Djebel Dekma, and lastly at Zana.

76. Coccothraustes vulgaris. (Hawfinch.)

On one occasion, about the middle of May, I saw a pair of Hawfinches among the Tamarisk-trees that grow near the spring of Aïn Djendeli.

77. Fringilla spodiogena. (Algerian Chaffinch.)

This bird is common about Tunis; but we lost sight of it on moving westward.

78. Serinus meridionalis. (Serine Finch.)

Common about the olive-groves near Sousa and other parts of Tunis, but decidedly rare in the mountainous and more elevated parts.

79. Carduelis elegans. (Goldfinch.)

Common everywhere. At Djendeli this bird builds a neat nest, composed almost entirely of the flower of the Tamarisk.

80. Chloris aurantiiventris*. (North-African Greenfinch.)

Though this bird is represented as common in many parts of the country, I saw but little of it. I shot one near Souk Harras; and afterwards we obtained a few nests near Djendeli. The bird appears to be justly entitled to a specific appellation, as being distinct from the common Greenfinch (*Fringilla chloris.*)

81. Linaria cannabina. (Linnet.)

I met with large flocks of this bird near Carthage, in February.

---

* *Ligurinus aurantiiventris*, Cab. Mus. Hein. p. 158 ?; *Chlorospiza chloris*, ex Algeria, auct.—(Ed.)

82. **Passer salicicola.** (Spanish Sparrow.)

Is found in great numbers during the breeding-season among the Tamarisk thickets on the Chemora, and in the high sedge at Zana. The Arabs destroy the nests, eggs, and young, wherever they find them, as their great numbers do much damage to the crops of corn. The nests are placed as thickly as they can stand—the whole colony consisting of perhaps one hundred pairs, occupying only five or six trees. The noise and ceaseless chattering proceeding from one of these "sparrow towns" can easily be imagined; and, guided by the sound alone, one may walk directly to the spot from a considerable distance. One Sunday morning, four Arabs came to our tents, and, gravely sitting down in a row, opened the hoods of their burnouses, and displayed 800 or 1000 sparrows' eggs, which they arranged in four heaps before them, and remained in their sitting posture contemplating them with evident satisfaction. We were rather taken by surprise, but selected the best for our collections, reserving the rest for omelettes.

83. **Emberiza cirlus.** (Cirl Bunting.)

I frequently saw the Cirl Bunting at Khifan M'sakta and its neighbourhood. We afterwards, in May, obtained nests.

84. **Emberiza miliaria.** (Common Bunting.)

Everywhere very abundant.

85. **Alauda arvensis.** (Skylark.)

The Skylark is very common about Tunis in February; but it occurs rarely in the Salt-lake country, the head-quarters of *A. calandra*, *cristata*, and *brachydactyla*.

86. **Galerida cristata.** (Crested Lark.)

Is abundant in all the plains both in Tunis and the Salt-lake country. In the latter districts we found it breeding in the month of May, but some eggs were obtained in April. Though the plains appear to be most frequented, it was by no means of unusual occurrence to find the Crested Lark in the mountains and rocky passes, in this respect differing from *A. calandra* and *brachydactyla*, both of which we found exclusively in the level country.

87. CALANDRELLA BRACHYDACTYLA. (Short-toed Lark.)

This lark is much more local in its distribution than the last—its range being confined to a few favoured spots in the elevated plains. About Aïn Beïda it is abundant, and throughout the great plain of El Tharf it may be commonly met with; in the neighbourhood of Djendeli it also occurs. Like the rest of its congeners, it places its nest on the sheltered side of a bush,—the scrubby vegetation which clothes the whole of that arid district affording the necessary protection for its offspring. The eggs of this species vary very much; even in the same nest hardly two similar ones are to be found. So different were some of the varieties, that the greatest care was necessary in identifying their true parentage.

88. MELANOCORYPHA CALANDRA. (Calandra Lark.)

The large size of the Calandra makes it conspicuous among its congeners in places where the other species are found. It seeks the pastures and corn-fields more than the above-mentioned species, though in some places all three are found together in equal abundance. The number of eggs varies from three to five; they are laid about the second week in May, but some earlier.

89. LOXIA CURVIROSTRA. (Crossbill.)

On the 26th of March, we met with the Crossbill half a day's journey westward of Kef, on a ridge of the mountains covered with pine-trees. There were five or six of them, consisting of two parent birds with their young just out of the nest.

90. PICUS NUMIDICUS. (Numidian Woodpecker.)

I shot one of these birds in a tree that overhangs a small marabout that stands on the north side of the eastern precipice of Djebel Dekma.

91. GECINUS LEVAILLANTII. (Levaillant's Woodpecker.)

This close ally, but well-defined representative of our common Green Woodpecker (*Gecinus viridis*) is not uncommon in districts where there are large trees. I met with it on several occasions; and a nest of seven eggs, with the old bird, was brought to us by an Arab. These eggs appear, on comparison, decidedly smaller than those of our familiar species.

92. Cuculus canorus. (Cuckoo.)

In the Waregra country, near Sidi Youssef, towards the end of March I saw several Cuckoos, one of which I shot. I have no recollection of having either met with it or seen it subsequently.

93. Oxylophus glandarius. (Great Spotted Cuckoo.)

Mr. Hewitson, quoting Mr. Tristram, has given an account of the breeding of this bird (*vide* 'Ibis,' vol. i. p. 76), to which a few additional remarks of my own may not be here out of place. I was unfortunately the one of the party that saw least of this bird; therefore I can only add a little information as to the manner in which our eggs were obtained, and, I am sorry to say, nothing to the general habits of the bird. I first observed it in the Waregra country, near the Tunisian frontier, after which we lost sight of it till the middle of May, when our attention was drawn to the fact of its existence in the neighbourhood in which we were then located, by the information brought by Mr. Tristram from Batna. On the morning of the 20th of May, an Arab brought us two eggs which corresponded so well with the egg Mr. Tristram had previously obtained, that our expectations were raised to the highest pitch. A few hours after, another egg was brought from another quarter; and in the evening of the same day, four more. With none of these eggs were any of the *Pica mauritanica*. On blowing them, the first two proved to be about half-incubated, and the zygodactylic structure of foot was clearly visible; the others were fresh. I may add, that on taking each of the Arabs to my box of skins, each separately selected a Common Cuckoo, and showed wherein the Great Spotted Cuckoo differed. There was no skin of *O. glandarius* in the box. On the 20th of May, therefore, we had no doubt that we had the eggs of this Cuckoo. On May 25th, Mr. Simpson was taken, by an Arab who had been in the habit of collecting for us, and who lived in a camp not far from ours, to a nest, in which he found three eggs corresponding exactly to those we had previously obtained. Mr. Simpson did not see the birds near, and at the time supposed, from the fact of the nest being so close to the Arab tents, that the eggs had been put there by the man who showed it to him, in order that he might more easily watch that no other Arab took the eggs and deprived him of the reward we had offered. Mr. Simpson, on reconsidering the facts of the case, is now of opinion that the eggs had been deposited by the bird herself. The nest in which these eggs were placed was described as an old one, and as probably one of a Magpie (*Pica mauritanica*). The next nest obtained was on May 30th, and was that taken by Mr. Tristram, as related in the paper referred to above. Two other eggs were brought to us on another occasion. Returning again to the different nests above mentioned, it would appear that on no occasion did we find other eggs with those of the Cuckoo, and that certainly on two occasions more than one egg was found in the nest, viz. in the nest taken by Mr. Simpson, and in that taken by Mr. Tristram. Again, there is a probability, from the fact of the two eggs first brought being equally incubated, that they were from the same nest; and it is also presumable that the four eggs brought on the same day were from the same nest, as two of them showed marks of imperfect formation in the shell, one more than the other, indicating the order in which they had been laid. The circumstance of Mr. Tristram finding two of the eggs of this bird marked as *Pica mauritanica*, and two others, really Magpies, similarly marked, after all proves nothing. They were not taken by any of us, else they would have been so noted, but were brought to our tents by some Arab; and it is as likely that he took them from two, three, or four nests, as from one. Further evidence than an Arab's bare statement we usually deemed necessary to determine whether the eggs brought to us were from one or more nests. I believe it is contrary to our experience of parasitic Cuckoos to find nests occupied by eggs, certainly of a Cuckoo, more than one in number, and they the only eggs in the nest*. I am not disposed to throw any doubt upon M. Brehm's statements respecting the habits of this bird. I have not his paper, and I am sorry to say it is now inaccessible to me; but, if I recollect rightly, he follows the bird through the whole of the breeding-season, and had on many occasions seen the young Cuckoo with the young of its foster-parents in the same nest. We only obtained the eggs in the manner I have stated, and unfortunately left their haunts before the young were hatched; our work therefore was left imperfect, and it remains the enviable task of some enterprising naturalist to unfold the mystery that still hangs over the breeding-habits of this bird. For his guidance, whoever he may be, let me add that the wooded hills on the south side of Lake Djendeli, and in the neighbourhood of the Madracen, both which districts lie a little to the eastward of the high-road between Constantine and Batna, may be considered as favoured breeding localities of *Oxylophus glandarius*. I have refrained from suggesting any probable hypothesis which might clear up the difficulty, as I feel sure that before long we shall arrive at the facts of the case, and any false supposition might tend to error.

---

* In writing to me respecting an egg of the *Chrysococcyx lucidus* of Australia, Mr. W. Bridger says that it was incubated while the eggs of *Acanthiza chrysorrhœa*, in the nest of which he found it, were fresh, showing that the egg of a parasitic Cuckoo may be the first deposited in a nest.

94. COLUMBA PALUMBUS. (Ring Dove.)

This Pigeon, which Mr. Gould assures me differs in no way from our common Ring Dove, is abundant in many parts, and breeds in the month of May.

95. COLUMBA LIVIA. (Rock Dove.)

Occurs in great numbers in the Cave of Djebel Dekma, and in other suitable rocks of that district.

96. TURTUR AURITUS. (Turtle Dove.)

Common about Djendeli, where it breeds.

97. TURTUR ÆGYPTIACUS. (Egyptian Turtle Dove.)

In the Regency of Tunis I observed this bird in many places. It is found usually about the towns, and frequents the ruined Amphitheatre of El Djem. I never saw it in Eastern Algeria.

[To be continued.]

XXXI.—*Recent Ornithological Publications.*

1. ENGLISH PUBLICATIONS.

THE fourth and concluding part of the 'Illustrated Proceedings of the Zoological Society' for 1858, which was published last month, contains numerous papers on Ornithology, and the plates attached are of the usual excellence;—how can Mr. Wolf's pictures be otherwise than life-like? The four parts of last year's 'Proceedings' together form a volume of nearly double the usual thickness, and accompanied by no less than 45 plates. The papers relating to Ornithology in the last part are the following:—"Characters of five new species of American Birds" (p. 446), and "List of Birds collected by Mr. Louis Fraser at Cuenca, Gualaquiza, and Zamora in the Republic of Ecuador" (p. 449), by P. L. Sclater: "Synopsis generis Fringillini, *Erythruræ*," by Dr. G. Hartlaub (p. 461): "Notes on the habits of the *Scythrops novæ hollandiæ*," by Dr. G. Bennett of Sydney (p. 462): "Notes on the habits, haunts, &c., of some of the Birds of India," by Dr. A. L. Adams (p. 466): "On two species of Antbirds in the collection of the Derby Museum" (p. 540), and "Note on the genus *Cichlopsis* of Cabanis" (p. 541), by P. L. Sclater: "On the Indian Pheasants bred in the Menagerie," by D. W. Mitchell (p. 544), and "On the Birds collected by Mr. Fraser in the vicinity of Riobamba in Ecuador," by P. L. Sclater (p. 549). Beautiful figures of the eggs and young of the species of Indian *Phasianidæ*, bred in the Society's Gardens (*Lophophorus impeyanus, Catreus wallichii, Gallophasis horsfieldi, G. albocristatus* and *G. melanotus*), are given. The latter are copied from Mr. Wolf's drawings in the portfolio of the Society.

The first of the two numbers of Mr. Gould's 'Birds of Asia' for the present year is now ready, forming Part II. of this great work. It contains figures of

Gennæus nycthemerus, of China.
Dendrochelidon coronatus, of India.
,, *klecho*, of Java.
,, *wallacei*, of Celebes.
,, *mystaceus*, of New Guinea.
,, *comatus*, of Eastern Malasia.
Harpactes duvauceli, of Sumatra and Borneo.
,, *rutilus*, of Malacca.
Amydrus tristrami, of Palestine.
Merula castanea, of Northern Hindostan.
,, *albocincta*, of ,, ,,
,, *boulboul*, of ,, ,,
Parus dichrous, of Nepal.
,, *rubidiventris*, of Nepal.
,, *rufonuchalis*, of N.W. India.
,, *melanolophus*, of ,,

Mr. Gould will excuse us for remarking that *Amydrus tristrami* is from Palestine, not *Asia Minor*; and that *Parus dichrous* belongs to the section *Lophophanes*, which appears to be fairly separable, generically, from *Parus* *.

The Trustees of the British Museum have lately published Part III. Sect. II. of the 'List of Specimens of Birds in the Collection,' embracing the *Psittacidæ*. Like the other bird-catalogues, it is written by Mr. G. R. Gray, and bears evidence of his usual laborious painstaking in the compilation of synonyms. In his present arrangement, Mr. Gray has yielded to a certain extent to the principles of geographical zoology as now recognized; as, for example, in separating *Chrysotis* from *Psittacus, Loriculus* from *Psittacula*, &c., but he has not, in our opinion, carried these principles to their legitimate development. Although we should at present be almost afraid to enter the lists on behalf of Prince Bonaparte's theory, that the Parrots of the two hemispheres are as distinct as the Monkeys, we have little doubt that this position will ultimately be established, when the osteology and anatomy of the group have been properly worked out. Such being the case, we look upon all generic combinations of Old World and New World species as unnatural; and we are sorry to see that Mr. Gray still unites *Caica* and *Pionus* with *Psittacus, Agapornis* with *Psittacula*, and so on. With regard to other points, we may remark that from Mr. Wallace's observations (Ann. Nat. Hist. Feb. 1859, p. 147) it now seems certain that *Eclectus* does not belong to the *Loriinæ*. Again, *Mascarinus* (meaning Mascarene, *i. e.* Madagascarian) surely cannot be used generically or subgenerically for a group of Moluccan Parrots. Its proper type is the *Psittacus mascarinus* of Gmelin, from Madagascar. It is true that Lesson unnaturally associated with this bird the Green Parrots of the Moluccas, and put them both in the same genus—*Mascarinus*; but, when we refer them to their respective positions, *Mascarinus* must be applied to the Madagascar bird, and the Green Parrots of the Moluccas require a new appellation, which, as it has been already suggested, may be *Polychlorus* †.

Though the characters of new species given in the notes to the present 'List of Parrots' are somewhat curt, this is a much better plan than that of publishing names without any description at all, as has been done on former occasions: and we may hope that this practice, which has nowhere been more loudly condemned than in the preface of one of the recent catalogues* published by the Trustees, has been now finally abandoned.

---

* Confer Cassin in "Birds of California, Oregon, &c.," p. 18.

† See Proc. Zool. Soc. 1857, p. 226.

The total number of Parrots enumerated in Mr. Gray's list (which contains all described species, whether specimens are in the national collection or not), arranged in the different subfamilies adopted by Mr. Gray, is as follows:—

I.	Pezoporinæ	87
II.	Arinæ	82
III.	Loriinæ	69
IV.	Psittacinæ	108
V.	Cacatuinæ	34
		380

This gives us 151 species in the New World, and 229 in the Old World. It is certainly remarkable, that of the latter group only 25 † occur in Africa, though its geographical extent is so great, and we know of nothing that would seem to unfit it for the residence of *Psittacidæ*.

Mr. Bree's work, on the 'Birds of Europe not observed in the British Isles,' has reached its thirteenth number. We must again call Mr. Bree's attention to the importance of consulting *recent* authorities. The "Hooded Shrike" has, we believe, only occurred in Spain in the imagination of dealers, whose object is always to increase the list of "European" birds. (See Dr. Hartlaub's notes in Proc. Zool. Soc. 1858, p. 292.) And Le Vaillant's 'Tchagra' is quite a different species from the *L. cucullatus* of Temminck, a scarce bird even in Northern Africa; so that Temminck and Degland were not so far wrong, after all, in their remark alluded to, p. 174.

The second part of Mr. Eyton's 'Osteologia Avium' is now ready. It contains a continuation of the plates, and the letterpress relating to the 'Raptores'—the first of Mr. Eyton's Orders.

---

* Catalogue of Batrachia Salientia, by Dr. A. Günther, 1858.

† Namely, *Palæornis*, 3 sp., *Psittacus*, 2 sp., *Pœocephalus*, 10 sp., *Agapornis*, 6 sp., *Coracopsis*, 3 sp., and *Mascarinus*, 1 sp.

2. French Publications.

The numbers of the 'Revue et Magasin de Zoologie' for February, March, and April of this year have reached us. They contain several articles on Ornithology. (1) "Description et figure d'une nouvelle espèce d'*Euphonia*," by Ch. F. Dubois. This Guatemalan *Euphonia* (*E. cyaneidorsalis*) seems different from the Mexican *E. occipitalis*, though closely allied to it. It is, therefore, very probable that the bird included in the list of Guatemalan species (*antea*, p. 17) as *Chlorophonia occipitalis* really belongs to the latter species. We request Sir William Jardine's attention to this point. (2) "Notes Ornithologiques," by M. A. Moquin-Tandon; a continuation of that gentleman's notes on the Birds of Southern France. (3) "Notes sur quelques Oiseaux du Mexique," by M. H. de Saussure. Three new species are described, *Hypotriorchis ferrugineus*, *Acanthylis semicollaris*, and *Quiscalus sumichrasti*, and other notes are given. (4) "Notice sur un vieux mâle de Canard siffleur à plumage de femelle," by M. L. Roget, of Geneva.

We have managed to procure, after some trouble, the number of the Scientific Journal—'L'Institut'—which contains Dr. Pucheran's article entitled "Oiseaux des Isles Sandwich," alluded to in our last Number. It is No. 1306, published 12th Jan. 1859. The article appears to have been the substance of a communication made to the Société Philomathique of Paris, and relates to the general character of the peculiar Avifauna of the Sandwich Islands. In No. 1310 of the same Journal, published 9th Feb. 1859, is a second paper by the same author, read before the same learned body:—"Observations sur deux espèces de Passereaux originaires des Açores." The discovery of a new species of the limited group of true *Fringillæ* in the Azores (*Fringilla moreleti*) is of great interest. The bird appears to be allied to *F. canariensis* and *F. teydea* of the Canaries. The second Passerine mentioned is, strange to say, the Greater Bullfinch of Europe (*Pyrrhula coccinea*). The occurrence of these European forms in the Azores tends to throw these islands into the same category as the Canaries and Madeira, and to show that they were part of the old "Atlantic" continent, as first imagined, we believe, by the late Professor Edward Forbes*.

But the greater the interest of these papers by Dr. Pucheran, the more the pity that they should appear only in an ephemeral publication, such as this newspaper. It is true, that M. Lesson was formerly in the habit of describing his supposed new species of birds in the 'Echo du Monde Savant,' and that of late years, we believe, some American writers have published characters of new species of fishes in the 'San Francisco Herald;' but such examples are hardly worthy of imitation, especially by a writer who has all the best scientific journals in Europe open to him.

3. German and Scandinavian Publications.

We regret not to have yet been able to see a copy of the first part of Dr. Cabanis' 'Journal' for this year. We are, however, quite aware that it is published, since Dr. Hartlaub has forwarded to us a separate copy of his important article "Monographische Uebersicht der Glanzstaare (*Lamprotornithinæ*) Africa's," with which the number commences. It is almost superfluous to say that this group of birds is here worked out in the usual masterly manner in which Dr. Hartlaub always treats subjects appertaining to his favourite study, and which has caused him to take rank, in the words of a recent writer †, as "the most accomplished living ornithologist of Europe." Dr. Hartlaub divides the African *Lamprotornithinæ* as follows:—

a. Augornithes (25 species).		*b.* Moriones (9 species).	
1. ***Lamprotornis***, containing	5 species.	5. ***Pilorhinus***, containing	1 species.
2. ***Lamprocolius*** ,,	15 ,,	6. ***Amydrus*** ,,	5 ,,
3. ***Notauges*** ,,	4 ,,	7. ***Oligomydrus*** ,,	1 ,,
4. ***Pholidauges*** ,,	1 ,,	8. ***Onychognathus***	2 ,,

Looking at their geographical arrangement, 11 species are exclusively western, 7 southern, 1 eastern, and 8 north-eastern; 4 are common to north-eastern and western Africa, and 2 are of wide distribution.

Dr. Erhard has reprinted his Notes on the Birds of the Cyclades, which we alluded to (*antea*, p. 107) as published in 'Naumannia' for 1858, in the first part of an interesting brochure, entitled "Fauna der Cycladen *." In the second part of this book we are promised a figure of the new Falcon (*Falco dichrous*), discovered by the author in these islands.

---

* Confer Tristram in "The Ibis," *antea*, p. 155.

† Cassin, in Pr. Ac. Sc. Phil. 1859, p. 32.

Professor Carl J. Sundevall, of Stockholm, has courteously forwarded to us the first five numbers of his 'Svenska Foglarna †.' We beg to call the attention of those who are interested in European Ornithology to this work, the most recent authority on the birds of Scandinavia. Reduced figures, nicely drawn, and coloured sufficiently accurately for identification, are given of all the species.

Professor Sundevall has also sent us separate copies of a valuable paper which he has lately contributed to the 'Transactions' of the Royal Academy of Sciences of Stockholm, entitled "Kritisk Framställning af Fogelarterna uti äldre ornithologiska arbeten ‡." It consists of critical remarks on two "classical" works on Ornithology, Sparman's 'Museum Carlsonianum,' and Le Vaillant's 'Oiseaux d'Afrique.' These are of great value, the notes on the former being often founded on examination of the type-specimens now in the Museum of Stockholm. Being written in Latin, they are rendered more generally accessible. Professor Sundevall's great knowledge of South African Ornithology renders his remarks on Le Vaillant of the highest interest. He states broadly (what we have long considered, and is now well known, to be the case), that Le Vaillant has described and figured as South African many birds which really belong to very different countries, and never occur there at all; and, not only this, but has entered into long details respecting their habits and manners, as observed by himself. Out of the 284 species contained in Le Vaillant's great work, Prof. Sundevall's summary gives 134 only as well-determined South African, 9 imperfectly determined, and 10 doubtful species. No less than 60 are placed in the category of "*Aves pseudo-*

---

* Leipzig, 1858, Voigt and Günther, 116 pp., sewn.

† Svenska Foglarna, med text af Professor Carl J. Sundevall: teeknade och lithographierade af Peter Akerlund. Stockholm, 1856—1858.

‡ Kon. Vet. Akad. Handl., Band ii. No. 3 (1857).

capenses, certè non in Africa Meridionali, a Le V. peragratâ, inventæ, etsi eas auctor, veritatem parùm curans, asseverat seipsum invenisse, adjectâ plerumque historiolâ de vitæ ratione, de capturâ, et cet." Finally, there are 71 birds which the author himself admits to be of extraneous origin. Among the 284 species, 13 are certainly "*aves arte factæ*"—made-up species, and 9 others, according to Prof. Sundevall, are to be suspected as of like origin.

4. AMERICAN PUBLICATIONS.

In the First Number of 'The Ibis' we mentioned the arrival in this country of copies of an important accession to Zoological literature—the second edition of the 'Mammalogy and Ornithology of the United States Exploring Expedition during the years 1838–42, under the command of Charles Wilkes, U.S.N.' The work consists of a quarto volume of 466 pages, accompanied by a folio atlas of plates. The letterpress is from the pen of Mr. John Cassin, of the Academy of Sciences of Philadelphia, a gentleman who, from his excellent knowledge of general ornithology, and his position as one of a learned body which has in its custody probably the largest and most perfect ornithological collection in the world, was above all persons qualified to undertake the task of naming and determining the specimens of the large series of birds* amassed by the Expedition; and this task, as we think it will be generally acknowledged, he has performed with singular ability and success. The plates, being drawn on steel, have not the lifelike appearance of the productions of some of our recent European artists, but are generally highly creditable to the executor, and sufficiently accurate for the determination of species.

Having said so much, we hope to be permitted to comment upon one or two points which, as we turn over the leaves of Mr. Cassin's volume, seem to require notice, without rendering ourselves liable to the charge of unduly severe criticism. In the first place, we think something ought to have been said in the preface about the extraordinary circumstances which attended the production of the *first* edition of this book. It was written by Mr. R. Titian Peale, one of the naturalists of the Expedition, and bears the date 1842 on its title-page. But few copies—only one hundred, it is said—were issued, and the rest, if ever completed, were destroyed by fire at Washington. However this may have been, the volume is one of excessive rarity, and only in very few instances has found its way to Europe. A circumstance which no doubt rather prevented any attempt to reproduce copies of it in its then shape was, that it was hardly a creditable book to bring before the scientific world. Being the composition of one who seems to have had little, if any, previous knowledge of his subject, the errors were very numerous. Old, well-known birds were described as new; species were referred to impossible genera, and the descriptive characters so drawn up that it was next to hopeless to attempt to use them for the purposes of determination. The public are indebted to Dr. Hartlaub, of Bremen, for an extended critical notice of this scarce volume, published in Wiegmann's 'Archiv für Naturgeschichte*,' in which such of these mistakes as could be corrected without inspection of the type specimens were set right. And we cannot understand why Mr. Cassin has hesitated to acknowledge the services rendered to science by the author of this admirable critique, where the greater part of Peale's errors were corrected eight years ago, and which must manifestly have been of great assistance to him in preparing the present edition.

---

* The Appendix gives a list of no less than 748 species, collected during the expedition. See p. 429.

We subjoin a few notes upon some of the species of birds included in Mr. Cassin's list:—

P. 78. *Sarcorhamphus papa* has been mentioned as an inhabitant of Southern Mexico, in P. Z. S. 1857, p. 226, having been obtained in Vera Cruz by M. A. Boucard.

P. 118. *Corvus ruficollis.*—We cannot believe that this Crow is "not uncommon" in the island of Madeira, as Mr. Peale has stated. It is not mentioned at all in the list of a careful observer of the birds of that island, E. Vernon Harcourt, Esq., given in the 'Annals of Nat. Hist.' June 1855. We agree with Mr. Cassin that it is *not* a West African species; and, were it so, the zoology of Madeira is purely Palæarctic, and has nothing to do with the Æthiopian type. As to the publication of Museum appellations without descriptions, we also cordially agree with Mr. Cassin that "this proceeding, though it may do well enough to heighten the distinction and scientific consideration of the not very energetic directors or head or assistant keepers of museums, yet materially retards the most important object for which they, and the establishments with which they are connected, are maintained by their governments or constituents,—which is the diffusion of knowledge."

---

* See Wiegmann's Archiv f. Naturgesch. xviii. Jahr. 1 Bd. p. 93.

P. 124. *Calornis corvina.*—This bird is certainly not a *Calornis,* that genus being typified by *Calornis cantor,* a very different form. We believe it would be better placed in Prince Bonaparte's genus *Lamprocorax,* as it has been arranged by Dr. Hartlaub (Journ. f. Orn. 1854, p. 168). Is Mr. Cassin sure that the Samoan bird is the same as the Carolinian ?

P. 155. *Tænioptera obscura.*—*Tænioptera* is a pure Neogean (New-world) form belonging to a purely Neogean family, the *Tyrannidæ.* It would be quite as unnatural to find a *Tænioptera* in the Sandwich Islands as a *Phasianus* in South America, or a Toucan in Africa. The wing, "with the first quill short," at once shows this bird is no *Tænioptera,*—in that genus the first quill being nearly as long as the second. We suggest for this bird the new generic title *Phæornis,* and propose to call it *Phæornis obscura.*

P. 159. *Tatare otaitiensis.*—The oldest synonym for this bird is *Turdus longirostris* of Gmelin, it being Latham's "Long-billed Thrush" (Gen. Syn. iii. 67), from the island of Eimeo, as we are able to assert, from having examined type specimens so marked in the Derby Museum.

P. 277. *Peristera erythroptera.*—There seem to be several nearly-allied species confounded under this name. Mr. G. R. Gray has recently (P. Z. S. 1856, p. 7. pl. 115) described and figured the bird from the Samoan islands as *Calænas stairi.* The group seems far removed from *Peristera.* We have recently seen specimens of a closely-allied species from New Caledonia.

P. 337. *Bernicla inornata.*—The bird represented in Gray and Mitchell's Genera, pl. 165 (as has been already stated in P. Z. S. 1859, p. 290), is not *Anas inornata,* King, and should bear the name *poliocephala.* Specimens of both *B. magellanica* and *B. poliocephala* are now living and breeding in the gardens of the Zoological Society.

P. 385. *Sterna meridionalis.*—This name has been already used in the same genus for a species closely allied to *Sterna anglica* by Dr. Brehm, and should therefore be changed.

P. 391. *Inca mystacalis.*—The generic term *Inca* is subsequent in point of date to *Nænia*, Boie (1844), and *Larosterna*, Blyth, Cat. B. Mus. As. Soc. 1849, p. 293.

The 'Proceedings of the Academy of Natural Sciences of Philadelphia,' of which we have received the first 84 pages belonging to the present year's volume, contain an important paper by Mr. Cassin—the first part of a "Catalogue of Birds collected on the rivers Camma and Ojobai, Western Africa, by M. P. B. Duchaillu in 1858, with notes, and descriptions of new species." The collection here treated of is "the most extensive and interesting" yet made by this young and enterprising explorer, and contains many new and fine species—*Meropogon breweri, Parmoptila woodhousii, Muscipeta speciosa,* and others described by Mr. Cassin. We doubt, however, if the first-named will be found eventually to be a *Meropogon*, of which the one known species is a curious type, from Celebes, only known in the Leyden Museum. At any rate, it is a singular genus if really composed of two species, one from Celebes and another from West Africa. We do not quite understand what birds Mr. Cassin means by *Haliaëtus blagrus*, sp. 4, and *Spilornis bacha*, sp. 7 of his list. The latter is an Eastern Asiatic bird, from Java and Borneo; and we have always been inclined to consider Le Vaillant's story of its occurrence in Africa as purely fictitious. The former has been generally considered to be synonymous with *Cuncuma leucogastra*, though Mr. J. H. Gurney* rather refers it to the young stage of *Haliaëtus vocifer*. But *Circaëtus melanotis* of Verreaux, described in Dr. Hartlaub's System of W. A. Ornithology, is quite another thing from *Spilornis bacha* (as generally understood). It is a true *Circaëtus* of small size, and probably, according to Mr. Gurney's ideas, the young of *Circaëtus cinerascens* of J. Müller †.

---

* See *antea*, p. 239.

† *v.* Müller, Ois. d'Afrique, pl. 6.

Professor Baird has forwarded us a catalogue of North American birds, printed on thin paper in clear type, and useful for labelling specimens or marking off desiderata. We believe it is issued by the Smithsonian Institution, for the use of their numerous collectors.

XXXII.—*Letters, Extracts from Correspondence, Announcements, &c.*

It is with sincere regret that, although only arrived at our third Number, we have already to record the loss of one of our contributors. Mr. Edward Evans, the joint author with Mr. Wilson Sturge of the paper "On the Birds of Western Spitzbergen," printed in our last Number, died at Neath on the 13th of April, after a few days' illness, at the early age of twenty-six years. The deceased gentleman was a member of the Society of Friends, and, although so young, was conspicuous for his activity in the furtherance of philanthropical objects. As ornithologists, we must respect his memory, as that of a keen lover of our study, and the traveller who brought to the knowledge of naturalists a new and very interesting bird, the *Lagopus hemileucurus.*

We have received the following letters:—

To the Editor of The Ibis.

Sir,—I trouble you with a few remarks upon the Dartford Warbler (*Sylvia provincialis*, Temm.), a bird not uncommon on the south coast, and near Brighton, particularly in the autumn. Mr. Swaysland, Naturalist, 4 Queen's Road, Brighton, killed five on the 30th of November, 1858, which I saw in the meat; two of these were cocks and two hens; the other I do not remember. At that period of the year you can get a good view of them, and again in the spring; in general they are too shy, keeping low in furze. If there is a whitethorn bush in the latter they always fly to it, and sitting on the top, cry *pur, pur, pur,* swelling out the feathers of the throat. The hen in autumn plumage appears lighter and smaller than the cock. These little birds care not for snow, as under the thick furze they are warm and comfortable. Mr. Tristram, who has lately done so much for the science of ornithology, mentions in his "Catalogue of Eggs," in 1857, that in Algeria they are "entirely confined to the dry highlands, far away from the habitations of man;" near Brighton, however, they may be shot within a mile or less of the houses;—this I take to be exceptional. The spring plumage of *Sylvia provincialis* is much darker than the autumn; the bird appears almost a different species. On the 6th of April, 1859, I saw a cock lately killed: the beak of this specimen was quite denuded of feathers on the under mandible, in the manner of the Rook, to which it bore a strong resemblance. Mr. Swaysland and I compared the beak with that of one killed the previous autumn: this was well clothed, and we could only explain the circumstance by supposing the bird to dig in the ground as does the Rook; during frost the earth would be soft at the roots of the furze. I am told that this appearance of the under mandible is common to specimens killed in spring. Probably some of your readers may be able to confirm the circumstance I have mentioned, which I do not find recorded by any ornithological writer.

I may here call your attention to the fact of two specimens of the Short-toed Lark (*Alauda brachydactyla*) having been obtained near Brighton. I saw one alive on September 26th, 1854, which had been caught by boys on the Downs, and kept in confinement some time, not being distinguished from the Skylark. This bird cracked seeds like a Canary, instead of swallowing them whole; it was very tame, and ultimately killed and stuffed. The second specimen was killed in April 1858, by a person on the sea-shore, who saw it come to land, and light, after a short rest, upon the road, where it immediately began dusting itself. I did not see this bird, but my informant was the person who killed it, and one who is quite trustworthy: it was afterwards preserved.

Yours, &c.,

George Dawson Rowley.

5 Peel Terrace, Brighton,
8th April, 1859.

To the Editor of The Ibis.

Sir,—I obtained on the 1st of this month a nest and eggs of what I believe to be the Ash-coloured Shrike (*Lanius excubitor*). I was staying at Hayling Island, on the coast of Hampshire, at the time, and was out naturalizing, when I saw the nest taken out of a large, thick, scrubby hedgerow, consisting principally of brambles and blackthorn. It was found by some boys belonging to the Coast-guard Station; and they described the old birds, one of which was on the nest at the time, as like very large Wheatears. One of the boys had seen the birds near the same place about ten days before, and had found the nest, which he was obliged to pull down in order to see if there were any eggs in it; it was, however, not quite finished, and he believed this to be the second nest of the same birds. I mentioned the above circumstances to Mr. Hardy, the Rector of the island, who is a thorough naturalist, and he confirmed me in my belief by telling me that for several years he had observed a pair of Ash-coloured Shrikes in his grounds, that they frequented some railings in front of his window, and that he took great interest in their habits, and had twice obtained their nests and eggs. The railings had been removed a year or two ago, and he had not seen them since. He also told me that he thought there were generally two pairs of these birds in the island, and mentioned the exact haunts of the others. He is well acquainted with the Red-backed Shrike, which is not rare there, and said he was not likely to confound them together.

On getting home I compared the eggs which I had from the boys with the Shrikes' eggs in my cabinet, and they are decidedly larger than any of those of the Red-backed which I possess. I had my glass with me when I met the boys, and tried hard to detect the birds, but without success; and as I soon afterwards had to leave the island, I was prevented from going to the second locality. If I am able, however, I shall hope another year to obtain some further facts on this subject.

Yours, &c.,

William Henry Hawker.

Green Hook, Horndean, Hants,
June 16th, 1859.

Mr. Wallace's last letters (dated "Batchian, Jan. 28th, 1859") announce that he has heard of a second and finer species of Paradise-bird in that island. Also that he has sent off specimens of the newly-discovered *Semioptera wallacii* * by the Overland Mail to Mr. Stevens, so that they may be very shortly expected in this country †.

Mr. Fraser's collections are still detained in Ecuador by the blockade of Guayaquil. His last letters (dated "Trugincho above Puellaro, April 18th") say,—

"Guayaquil is, and has been strictly blockaded for now eight months by the Peruvian fleet, the mail alone being allowed to pass; and it is said that the population is suffering from the scarcity and high price of provisions.

"On the 22nd of March we had two shocks of an earthquake; it occurred about 8·30 A.M. I received it in Calacali; it was quite momentary, and being in my *quartero* at the time, I can only say it was indescribable (I had experienced two in Malta in 1846 or 1847, and was much of the same opinion then),—a noise, sensation, and confusion; the one followed the other so quickly that there was not any time for reflection until all was over, and the mischief done. On going into the *patio* or yard to see what was the matter, I found the adjoining quarter or room thrown down, and the rest of the building so cracked and shaken as to be in a ruinous state, except my solitary quarter, which alone escaped with very slight damage. The church-door was thrown down, but I did not see or hear of further mischief in that *pueblo*. San Antonio, which I passed through the same day, had both churches thrown down, but I did not hear of further damage.

"The air, *en camino*, was filled with clouds of fine dust from the slips on the mountain sides.

"Descending the mountain to the river, below Perucho, the earth had slipped over the road in three places, and we had to make the beasts scramble over the loose mounds to continue our way. The mountain here was cracked in every direction, and it was as much as spurs could do to make the terrified animals progress.

---

* See *antea*, p. 210, and P. Z. S. 1859, p. 129.

† Since writing the above, these birds have arrived. We hope to give full particulars about them in our next Number.

"In Quito the tall massive church towers have in many instances, together with some thirty or forty houses, been thrown down, and the buildings more or less damaged. Scarcely a house or a room has escaped without cracks; some fronts of houses lay in heaps in the streets: twelve persons were killed.

"Tacunga, Ambato, and Riobamba have escaped entirely, but Guano and the provinces have suffered severely. In Guayaquil some thirty houses have been thrown down.

"The general belief is that Pichincha has been the cause of all, but I imagine it to have been the cure, for it appears that the nearer Quito the slighter the shocks; and this opinion is partly confirmed by the following extract from Professor Jameson's letter:—'The people here (Quito) believe that the volcano of Pichincha has been the cause of the catastrophe,—an opinion in which I cannot concur, otherwise the effect would have been more local. In fact, the city, considering the height of the public buildings, has suffered comparatively little damage, whilst some villages in the neighbouring province, such as Cotocachi and Aluntagui, are in a heap of ruins.' The shock in Guayaquil must have also been extremely severe. In Perucho it was described as flowing from east to west. But C. R. Buckalew, Esq., the United States Minister, who was in his *patio* at the moment, says he distinctly saw the wave pass along the ridge of the roof of his house, which lies north and south, and cross that portion which is east and west, and that the whole city below was for the moment in motion like a wave of the sea, followed by a cloud of dust from the tumbled building materials."

Mr. Osbert Salvin, one of the most active contributors to 'The Ibis,' left England on the 17th of May last, by the W. I. M. Steamer 'Atrato,' on his return to Guatemala, where, being about to become a resident, he will neglect no opportunity of investigating the natural products of this little-known country. Mr. Salvin's letter, dated May 28th, on his passage out, says—"Some Swallows (*Hirundo rustica*) came on board when we were 180 miles N.W. of the Azores; so it is probable that the bird is found in those islands. On Sunday last, May 22nd, we passed close to Graciosa, and saw Terceira, Pico, St. George, and Fayal. Almost every inch of Graciosa seems to be cultivated, and the hill-sides are all fenced out into fields. I have not seen a single Tropic-bird (*Phaëthon*). We expect to make Sombrero before noon tomorrow, and to reach St. Thomas by six o'clock in the evening; if so, we shall have made the passage in 12 days 7 hours."

Professor Baird, of the Smithsonian Institution, Washington, D.C., gives us a most promising account of what is now doing in North America in the way of Natural History. He says—"Much as has been done in previous years in the way of Natural History exploration in North America, the present year is likely to witness more than ever. A large number of parties are out in the field, and in most cases accompanied by much better taxidermists than the previous ones. We have had vast collections of birds brought in heretofore, but they have been made by amateurs and beginners, not professional operators, and very few have been fit to give away or to mount. All this will, I hope, be improved this season.

"A most important expedition is that of Mr. Kennicott to the Hudson's Bay region. He is now on Lake Winnipeg, *en route* either for Fort York or Fort Simpson. He will remain two years or more in the country, and will make a clean sweep. His special object is the eggs; but he will collect birds too. He has met with the heartiest cooperation from Sir George Simpson, who has ordered all possible facilities to be given him.

"Next, in the main Rocky Mountains are no less than four well-equipped parties of Government explorers, on different parallels between our northern and southern boundary; several of them have regular taxidermists with them. There is an excellent collector at Fort Crook, near Mount Shasta, in Northern California, who has already gathered some 500 specimens, to come in by next steamer.

"The most important operation, however, is that at Cape St. Lucas, at the end of the Gulf of California, in charge of Mr. Xantus (de Vesey). He collected 2000 birds at Fort Tejon in some fifteen months, under great disadvantages. He now has almost his whole time to devote to Natural History, and a regular assistant besides. If nothing untoward occurs, he will exhaust the Western part of Mexico in the two years of his residence.

"We are devoting particular attention to completing our collection of North American eggs, and have issued widely a circular already sent you. It already promises good results.

"We have had a few birds from Piura in Peru, and fifty species from the line of the Panama railroad. I am going to arrange all our South American birds in one series. We have a dozen or two of Trinidad birds in alcohol, and are promised a series of Bahaman specimens by a gentleman just returned thence."

Professor Baird also mentions, that the 'Sacred Vulture*' of Bartram, a bird quite unknown since its alleged discovery in the last century, is said to have been met with again in Florida; and in relation to the same bird we have seen two letters from Mr. Alexander S. Taylor, of Monterey, California, reprinted from the 'San Francisco Herald.' Neither of these communications, however, contain anything very positive on the subject; and the statement of the "intelligent Sonoranian" that "the bird has four wings" renders us unwilling to place much confidence in the rest of his details on this subject.

The new pair of Bennett's Cassowary (*Casuarius bennettii*), announced in our last Number as likely to be added to the collection at the Zoological Gardens, arrived in good condition a few weeks ago, so that the Society now possesses three living examples of this remarkable bird. Dr. Bennett, of Sydney, the liberal donor of these animals, is himself now on a visit to this country, and has brought with him, amongst other interesting objects of natural history, several eggs of this Cassowary in a more perfect state than the examples hitherto received. The Zoological Society have also further increased their collection of *Struthiones*, by obtaining a young pair of Ostriches from the Cape of Good Hope. When these have a little further progressed towards maturity, we shall have a fine opportunity of comparing the Northern and Southern birds together. The Society have also recently received examples of several other interesting birds—the White-winged Trumpeter (*Psophia leucoptera*), the Cardinal Eclectus (*Eclectus cardinalis*), the Australian Thick-knee (*Œdicnemus australis*), and two fine pairs of the European Waxwing (*Ampelis garrula*).

---

* *Vide* Cassin, B. of Cal., Oregon, &c. p. 57.

THE IBIS.

No. IV. OCTOBER 1859.

XXXIII. *List of Birds observed and collected during a Voyage in the Red Sea.* By Dr. Theodor von Heuglin. *Edited and translated by* Dr. G. Hartlaub.

(Plates X. and XI.)

E. signifies Coast of Egypt, between Cosseir and Sawakim.
A. ,, Coast of Abyssinia.
D. ,, Danakil country, between the Peninsula of Buri and the Gulf of Tadjura.
S. ,, Somali coast.
S.A. ,, Southern Arabia.

[All measurements and colours of naked parts are taken from *fresh specimens.* The measurements are given in old French feet and inches.]

1. Neophron percnopterus.

E., A., D., S., S.A. Very seldom in company with *N. pileatus.*

2. Neophron pileatus.

Near Massaua. Islands of the Dahalack group. Very common in the marshy country near Chor-Mosgan (S.). Not seen about Tadjura and Berbera.

3. Vultur occipitalis.

Not rare near Massaua. Not observed in the Somali country.

4. Aquila rapax.

Was found breeding in Aug. 1858, on the coast of Abyssinia. It nests on high *Zizyphus* and *Balanites* trees.

5. Pandion haliaëtus.

In pairs along the whole coast of the Red Sea and the Gulf of Aden. A fresh nest found on a Schora-tree (*Avicennia*) in October 1857, on the island of Saad-e-din, near Zeila. Many old nests on rocks and prominent hills along the coast. Once on the island of Debir I found a nest on the roof of a deserted fisherman's hut. Another stood on the vaulted ceiling of an old cistern near Aualites, in the neighbourhood of Zeila.

The nest is built of strong dry branches and boughs, is nearly cylindrical, from two to three feet high, very strong and solid, and above rather flat. The lining consists of smaller branches, *algæ*, seagrass, and *fungi*. *Abu-ketáf*, Arab.

6. HELOTARSUS ECAUDATUS. (A., D.)

Mountainous districts of Somali.

7. FALCO ELEONORÆ. *Falco concolor*, Rüppell.

Island of Barakan in the Red Sea. *Old male*: of a uniform blackish schistaceous grey, with the throat pale, iris dark brown, lores and naked space round the eye sulphur-yellow; beak bluish-corneous, yellowish at the base; feet deep-yellow, nails blackish-corneous. Wings 8″ longer than the end of the tail. Measurements (taken from fresh birds): toe 12″; wing 10″ 2‴. *Younger bird*: ground-colour dirty brownish-black; throat very pale. *Young*: above dark cinereous, margins and tops of plumes ferruginous; below rufous with dark longitudinal spots along the shafts; throat pale; beard very distinct, dark blackish.

One adult specimen from Dahalak shows darker stripes on the back; but these are not so distinct and well-marked as in *F. ardesiacus*, V. The throat was in this specimen of a dirty whitish colour.

I found this fine falcon not further north than 16°, on naked rocks and coral islands, in the archipelagos of Dahalak, Hanakil, Amphila, near Ras Rachemeh and on Bur-da-Rebschi. It lives there during the breeding-season (Aug. to Sept.) in pairs, feeding upon smaller birds and locusts, of which latter it tears out the legs on the wing, like *F. rufipes*. Both sexes had breeding-spots. On the 30th of August I discovered four breeding pairs on a rock near the island of Dahalak el Kebir (15° N.L.), and found three nests, which were placed very artlessly on the rocky precipice. One contained three, the two others each two eggs. In size and colour the eggs were intermediate between those of *F. æsalon* and *F. subbuteo*. Bonaparte (judging from his description of this species in the 'Iconografia della Fauna Italica') seems to have known only younger birds after the first moult in autumn.

8. Falco tanypterus (or *peregrinus* ?).

Observed on the island of Bur-da-Rebschi.

9. Milvus parasiticus.

Very common on the Danakil and Somali coast. (A., S.A., &c.)

10. Caprimulgus europæus.

Met with in September on the Danakil, in October on the Somali coast.

11. Caprimulgus poliocephalus, Rüpp.

In September and October near Tadjura (D.).

12. Cypselus, sp.

Observed near Massaua and Eilet (A.); small, black, with the rump white.

[Very probably *C. abyssinicus*, Licht.—Ed.]

13. Hirundo rustica.

Single specimens. Observed in summer near Suez, Cosseir and Tadjura. On the 16th of November a flock near Djebel-tiar. (S.)

[The specimens sent for examination are certainly *H. rustica*.—Ed.]

14. Cotyle torquata.

Tadjura (D.).

15. Cotyle paludicola.

Tadjura (D.).

16. Coracias garrula.

In October and November very numerous in woody marshes on the Somali coast. Here locusts abounded, and many birds were feeding eagerly on them. Shot on the island of Debir in the Red Sea, on July 29th.

17. Halcyon chlorocephala (Gm.) = *Ceryle abyssinica*, Lichtenst. Nomencl. Mus. Zool. Berol. p. 67; Aug. v. Pelzeln, Sitzungsber. Kais. Acad. Wissensch. 1856, Apr., p. 500.—Iris brown, feet bluish-carneous; under mandible at base reddish.

On trees and bushes in marshy places along the coasts of Abyssinia, Danakil, and Somali.

[I cannot discover any material difference between the birds of Eastern Africa and those of the Indian Archipelago.—ED.]

18. HALCYON SEMICÆRULEA (Forsk.).

Seems to be only a bird of passage. During the whole of September and up to the middle of October not one single specimen was seen on the Danakil coast. But from this time many of them occurred about Tadjura, Ambabo, &c. They lived in pairs on *Mimosa* and *Zizyphus* trees. Near Berbera (S.) more rarely on saline plants.

19. HALCYON CHELICUTI. (A., D.)

On trees.

20. MEROPS SUPERCILIOSUS.

In October, in large flocks, on the Somali coast.

21. MEROPS CUVIERI. (A., D.)

22. UPUPA EPOPS. (D.)

23. NECTARINIA HABESSYNICA. (A., D.)

24. NECTARINIA, av. jun. (spec.?).

Tadjura.

25. OLIGURA MICROURA. (D., A.)

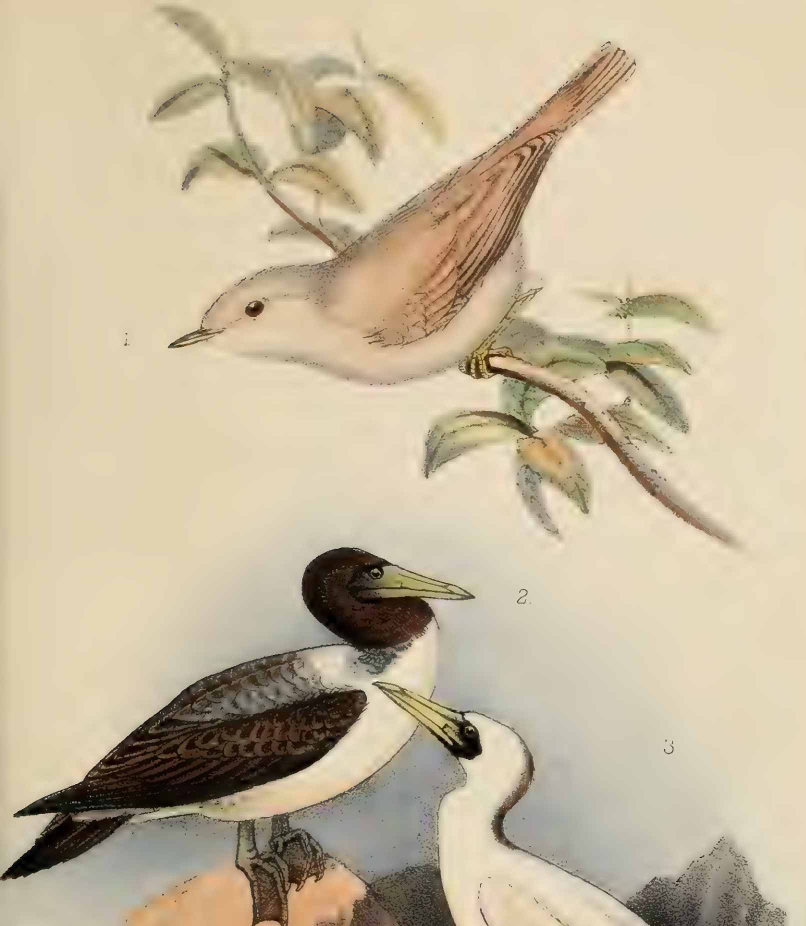
26. DRYMOICA RUFIFRONS (Rüpp.). (D., S.)

27. DRYMOICA GRACILIS (Rüpp.).

Island of Agig.

28. SYLVIA DELICATULA (Hart.), n. sp. (Plate X. fig. 1.)

Supra pallide isabellino-brunnescens, remigibus fuscis, dorsi colore limbatis; subtus multo pallidior, albida; cauda longiuscula, rectrice extima tota alba, secundæ apice et pogonio externo albidis interno nigricanti-fusco, tertia fusco-nigricante, macula parva apicali alba, margine externo rufescente; mediis pallide rufis, medio longitudinaliter fuscescentibus; subcaudalibus et subalaribus albidis; rostro et pedibus gracillimis, pallide flavis, illius culmine et apice nigricantibus; iride flavissima: long. tot. 4″ 5‴, alt. 2″ 2‴, rostr. à fr. 4‴, caud. 2″ 1‴, tars. 9‴. (Mus. Brem.)



hn Jennens del.

Stannard & Dixon.

Fig. 1. SYLVIA [illegible]ATILA. P. 340

Fig. 2, 3. SULA MELANOPS. P. 351

I found this beautiful species in dry localities, in dense salt-plant copses, near the strand about Berbera, Meid, Armati, &c. Manners and voice much like those of *Drymoica*. Very shy and swift. October and December. Not rare.

[A *true Sylvia,* congeneric with *S. subalpina, S. conspicillata,* &c.—ED.]

29. CALAMOHERPE TURDOÏDES.

Young birds in August, on the woody island of Schech-said, near Massaua.

30. SYLVIA CINEREA.

Island of Dahalak, in August.

31. AEDON MINOR (Cab.). (D., S.)

October, Tadjura.

32. AEDON FAMILIARIS (Ménétr.).

Tadjura.

32 *a.* ? CALAMOHERPE PALLIDA (Ehrenb.).

[Probably this species. Specimens collected in Spain by A. Brehm. differ by having the beak broader. Adult female from Tadjura.—ED.]

33. SAXICOLA SALTATRIX (Ménétr.). (D., S., S.A.)

34. SAXICOLA STAPAZINA. (D., S., S.A.) Oct. and Nov.

35. SAXICOLA MELANURA. (D., S.A.)

36. SAXICOLA DESERTI.

Observed near Berbera.

37. MOTACILLA ALBA.

In flocks on the Somali coast at the end of November.

38. BUDYTES FLAVA. (D., S.)

September to November.

39. CERCOTRICHAS ERYTHROPTERA. (D., A.)

40. IXOS ARSINOË. (D.)

41. ORIOLUS GALBULA.

In September, on palms in the Asab bay (13° N.L.).

42. Muscicapa grisola.

Observed near Aden. Not rare in the middle of October near Tadjura, and somewhat later on the Somali coast.

43. Lanius lahtora (Sykes).

Observed on the island of Agig (18–19° N. L.), on Dahalak, and near Tadjura.

[I have accurately compared the original specimen with a fine male from Madras in the Bremen collection, and cannot discover any true difference, except in the beak, which is somewhat shorter in the African bird.—Ed.]

44. Lanius spinitorques.

On the island of Dahalak and near Tadjura. Old and young birds.

45. Lanius somalicus, Hartl., n. sp.

Above, fine black, except the middle of back being transversely variegated with grey and whitish; below, white without any rose-tint. Tail much like that of *L. minor*. 1st November, 1857, I killed two birds of this kind on a marshy and well-wooded plain near Bender-Gam in the country of the Ker-Singeli-Somals. Both were afterwards lost during a fight. Size of *L. minor*. The female above more of a dirty fuliginous colour.

[There can be no doubt about this being a *new species*.—Ed.]

46. Nilaus capensis.

One specimen, from the Rio Gore near Berbera.

47. Laniarius cruentatus. (D., A.)

48. Corvus affinis (R.).

In the mountains near Tadjura. A younger bird of this species from Tadjura had the feathers of the chin and throat of a pure cinereous. Several Abyssinian specimens showed the same colouring, but less distinctly.

49. Amydrus blythii (Hartl.).

From the Rio Gore near Berbera on the Somali coast.

50. Buphaga erythrorhyncha. (A., D., S.)

51. Hyphantornis galbula (Rüpp.).

Near Tadjura and in the country of the Gissa-Somali.

52. Amadina cantans. (A., D., S.)

53. Vidua paradisea. (D.)

54. Fringillaria septemstriata. (A.)

55. Certhialanda desertorum.
South of Berenice (Ras Benass, 24° N. L.). Along the East-African coast to the Somali country.

56. Pyrrhulauda crucigera.
From 24° N. L. down to the coast of Abyssinia.

57. Pyrrhulauda leucotis.
Coast of Abyssinia, Danakil and Somali.—Island of Dahalak.

58. Buceros erythrorhynchus. (D., S.)

59. Læmodon melanocephalus. (A.)

60. Trachyphonus margaritatus. (D., A.)

61. Dendrobates hemprichii. (A.)

62. Cuculus canorus (?).
Observed, but not shot, in August in the valley of Ailet and on the island of Dessi.

63. Turtur risorius. (A., S., D.)
September to October.

64. Turtur ægyptiacus. (A., S., D.)
Cosseir. Sanakim.

65. Œna capensis.
From 22° N.L. along the whole coast of Eastern Africa.

66. Numida ptilorhyncha. (A.)

67. Pternistes rubricollis. (A., D.)
Very common near Tadjura.

68. Pterocles lichtensteinii.
Very common in the Danakil and Somali countries.

69. Struthio camelus (L.).
On the Red Sea not further to the north than the valleys about Berenice Troglodytica (24° N. L.). Frequent in the plains of Habab. Not met with in the Danakil country, but most

certainly occurring in the saline plains that separate the latter from Abyssinia. *Very common* in the Somali country.

"I was told by a rather trustworthy man, a hunter, that south of Fazogloa, near Djebel Dul, there existed a little *didactyle Ostrich,* not higher than *Otis arabs,* but in figure and colour much like *S. camelus.*" [*Autruchon,* Temm.?—Ed.]

70. Otis heuglinii, Hartl., n. sp. (Plate XI.)

♂, *adult.*: Pileo et facie nigris, vitta angusta verticali ab angulo frontali ad nucham usque ducta alba; nigredine gulari in apicem excurrente; genis pure albis; collo medio cinereo, pectus versus magis magisque rufescente, maculisque minutis obscurioribus transversim notato; colli infimi ptilosi antice elongata fasciaque fusca terminata; corpore supra dilute ochraceo, nigricante irregulariter fasciolato et variegato; tectricibus alarum extimis nigris, ad basin et ad apicem late albis; dorso medio, uropygio, tectricibus caudæ superioribus et cauda supra magis cinerascentibus, gracillime undulato-fasciolatis; fascia ante-apicali caudæ obscura, ipso apice albo, fascia altera vix conspicua; remigibus primariis tribus externis nigro-fuscis, reliquis irregulariter et late albo fasciatis ipsisque apicibus albis; secundariis nigro-fuscis, macula apicali cuneata lata obtusa alba notatis, ad basin pallidis; corpore subtus, subalaribus et axillis pure albis; rostro virescenti-nigro, apice pallidiore; pedibus sordide et pallide flavidis; iride fusca. Long. tot. 2′ 9″ 6‴; tars. 5″ 6‴; rostr. ab ang. oris 3″ 5‴, a fr. 2″ 11‴; al. 1′ 6″.

In small flocks of three or four birds in the dense underwood near the wells of Thushha on the route between Zeita and Harar. Not very shy.

[This beautiful Bustard seems to be quite new. It is totally different from the *Sypheotides humilis* of Blyth. Ed.]

71. Otis arabs.

In the Samher-country (coast of Abyssinia) and on the plains of Habab.

72. Œdicnemus affinis.

Coast of Abyssinia and Habab. Danakil-country south to Tadjura.

73. GLAREOLA LIMBATA.

Dahalak. Coast of Abyssinia. Large flocks on sandy plains, or in marshy places near the sea.

74. SARCIOPHORUS PILEATUS.

Dahalak. Coast of Abyssinia.

75. CHARADRIUS TRICOLLARIS? (*cinereocollis*, Heugl.).

Neck pale cinereous; two black bands on the fore-neck; basal half of beak, and naked ring round the eyes, of a fine minium-red; feet greenish-grey. In pairs; on rivulets along the Abyssinian coast.

76. CHARADRIUS CIRRHIPEDESMOS.

Danakil country, near Tadjura.

77. CHARADRIUS CANTIANUS.

African coasts of the Red Sea, Danakil, and very probably also Somali-coast. ♂ ad. from Tadjura. Iris dark-brown; feet brownish-grey; beak black; length 6″; wings 2″ 9‴; tars. 7‴.

78. CHARADRIUS GEOFFROYI, Wagl.

Through the whole year on the coasts of the Red Sea. Mediterranean coast, near Pelusium. ♂ ad. from Sanakim. Iris dark-brown; feet bluish-grey, the joints darker; beak blackish. Length 7″ 8‴.

The last three species live in separate small flocks near the sea.

79. HÆMATOPUS OSTRALEGUS.

In flocks of three to five individuals on the coast of the Red Sea, Danakil, and Somali. Seems to occur through the whole year.

80. ARDEA GOLIATH.

Rather frequent near the sea on the African coast south of 21° N.L. Always in small flocks. The voice sounds very much like the hoarse barking of a dog, and is very strong. *El Mirreh*, Arab.

81. ARDEA PURPUREA.

In the height of summer near Sanakim, Massaua. *Always smaller* than the European bird, and very intense in colouring.

82. HERODIAS SCHISTACEA.

South of 23° N. L. on both coasts of the Red Sea and on the Gulf of Aden. Often in larger flocks.

83. BUBULCUS IBIS, Hasselqu. (*Ardea bubulcus*, Sav.)

Flocks observed in autumn on the southern coast of the Red Sea.

84. BUPHUS COMATUS.

In September large flocks of this species were observed in the marshes on the Red Sea, near Ras Belul and Asab Bay, between 13° and 14° N.L.

85. BUTORIDES ATRICAPILLUS.

On the African coast, south of 19° N.L.—D.S. Lives on the strand and on rocks, creeps into holes, and hides itself in high trees near the strand. Breeds socially on dense shore-trees (*Avicennia*), and builds a nest very much like *A. minuta*, high and conical and very solid. Length of beak 15″–16″; wing 6″ 2‴; tars. 1″ 9‴; dig. med. c. ung. 1″ 10½‴.

86. ARDEOLA MINUTA.

Shot near Tadjura, in October.

87. PLATALEA LEUCERODIA.

Very small specimens. Lives in pairs or in small flocks on the whole coast of the Red Sea, but not further south than Dahalak. Met with in summer and autumn. Long. rostr. a fr. 6″ 8‴; tars. 3″ 10‴. Long. tot. 2′ 5″ 6‴. Iris in the old bird deep-red, in the younger one yellow. The naked space round the eye is yellow in the young bird; throat deep-yellow, a little brownish.

88. DROMAS ARDEOLA.

Alone or in little flocks in the Gulf of Aden; seems to migrate to the south in autumn, a few remaining on this side of the tropic. Near Suez and Tor I have never seen it. Breeds socially in June and July in deep holes, made by itself, on sandy islands. *El Hancór*, Arab.

89. CICONIA ABDIMII.

In autumn, near Dahalak and about Tadjura.

90. Scopus umbretta.

On wooded brooks, Abyssinian coast.

91. Tantalus ibis.

Coast of Abyssinia.

92. Ibis religiosa.

In August and September, on the island of Dahalak, and on the coast of Abyssinia. In pairs.

93. Numenius tenuirostris.

Throughout the whole year on the Red Sea, and in the Gulf of Aden. In winter I found them at Suez, and in Arabia Petræa; in July, near Cosseir; in August, near Massaua; from October to December, rather numerous in the Gulf of Aden.

94. Limosa rufa (?).

From September to November, in Asab Bay, Ras Belul, and near Tadjura (Somali). Long. tot. 13″ 2‴. Iris dark-brown; feet plumbeous; beak blackish-corneous; basal half of the under mandible pale-reddish.

95. Totanus stagnatilis.

Seen near Massaua.

96. Totanus glareola.

Seen near Massaua.

97. Totanus calidris.

In immense flocks in August near Massaua, afterwards everywhere single specimens on the Danakil and Somali coast.

98. Totanus glottis.

In winter on the Red Sea and the Somali coast. Not seen in summer.

99. Actitis hypoleucus.

On the whole Red Sea, Danakil and Somali coast. Never in large flocks. Probably throughout the whole year.

100. Tringa variabilis.

From July to September in summer dress and annotine young birds; between Sawakim and Bab-el-Mandeb, alone and in small flocks. In October and November on the Somali coast, in winter dress.

101. Tringa subarquata.

Exactly as the former.

102. Tringa ochropus.

Coast of Abyssinia.

103. Calidris arenaria.

From June to the middle of September I did not observe this species on the Red Sea. The first were seen at the end of September near Ras Belul (13° N.L.), in small flocks on the marshy coast, some individuals being still partly in summer dress. In October and November it was very frequent in the winter plumage near Zeila, Berbera, Bender Gam, &c.

104. ? Limicola pygmæa.

Very probably seen, but not distinctly recognized, near Ras Belul.

105. Phœnicopterus erythræus, Verr.

A few seen at Dahalak and near Massaua in September. More frequent at Amphila, in Asab Bay. Sometimes even in flocks of some hundreds. Naked parts about the beak and the eyes, deep rose-coloured ; iris pale yellow ; head and neck of a deep aurora-red.

	P. erythræus. ♂ ad.		*P. erythræus.* Jun.		*P. erythræus.* Tripoli.		*P. antiquorum.* Egypt.		*P. antiq.* Cape.	
	''	'''	''	'''	''	'''	''	'''	''	'''
Rostr. a rict. ad ap. .	3	11¼	3	8						
,, a fronte.	4	8	4	2	4	2	4	6	4	9
Nigredo rostr. sup. . .	2	7	2	3	2	6	2	2½	2	3½
Tarsus	10	8	9	10	10	5	13	3	11	10
Tibiæ pars nuda	7		7							
Ala	14	8	13	9						
Dig. med. sine ung. .	3	4½	3	0½						
Ung. dig. med..		4½		4½						

106. Chenalopex ægyptiaca.

On the Amher coast, shore of Asus, near Eilet.

On a former voyage I observed in winter near Suez, Tor, the Gulf of Moileh, &c., *Anas clypeata*, *A. querquedula*, *A. crecca*, and *A. acuta*, all of which I think I saw again near Massaua, Ras Belul, &c., but could not get within shot.

107. Podiceps minor.

In December near Suez.

108. **Podiceps auritus.**

In December near Suez.

109. **Thalassidroma**, sp.

Single individuals and whole flocks seen at the end of September, near Bab-el-Mandeb.

110. **Puffinus**, sp.

Some specimens observed on the coast of Somali; dark above and white below; size of a turtle. They passed the ship in a very rapid and serpent-like flight.

111. **Rhynchops flavirostris.**

Small flocks in July and August on the Red Sea, between 20° N.L. and 14° N. Island of Dahalak.

112. **Larus fuscus.**

Through the whole year in pairs on the Red Sea, and on the Gulf of Aden. *Abu Daghaba*, Arab.

113. **Larus leucophæus**, Licht.; Bonap. Consp. vol. ii. p. 219.

Seen near Ras Belul; more frequent on the Somali coast and in the Gulf of Aden. *Mas adult.* (hyeme): Length from the top of the beak to the end of wings 2′ 1″, wing 16″ 5‴. Naked space round the eye, deep-red; iris, pale-brown, with many minute black spots; rictus orange-red; upper mandible pale ochre-yellow, before the point orange; under mandible pale greenish-yellow, a spot before the point deep aurora-red; feet very pale ochre-yellow, membranes somewhat darker. *Fœm. jun.* (hyeme). Length of wing, 16″. Naked space about the eye and iris pale-brownish, the latter also minutely spotted; beak dirty yellowish-carneous; under mandible a little more plumbeous, a large black band before the top; feet pale-bluish, membranes carneous.

114. **Larus leucophthalmus.**

Very scarce north of the tropic, but very frequent more to the south. Somali coast. *Adjameh*, Arab. Long. 16″ 6‴ (ad ap. caud.), 18″ 2‴ (ad ap. al.), tars. 1″ 9‴. Naked space round eye and beak coral-red, with the point blackish; iris dark-brown;

gullet yellowish-carneous; feet yellow, the joints more plumbeous.

115. LARUS HEMPRICHII.

Lives with the former, but not in company with it. Long. 17″ 4‴ (ad ap. caud.); 19″ 1‴ (ad ap. alar.); tars. 1″ 11‴; al. 12″ 11‴. Beak in the old bird greenish-corneous, sometimes more yellowish, point deep wax-yellow; a coral-red band before it, bordered posteriorly with black; angle of mouth deep-red; feet deep-yellow. *Young*: Beak plumbeous, with a black band and a pale wax-yellowish spot at the top; gullet reddish-carneous; eye-ring blackish-carneous; feet greenish-plumbeous.

Both species, *Larus leucophthalmus* and *L. hemprichii*, feed upon crabs and Mollusca; live in large flocks, more on the African coast; breed socially on the sand, among salt-plants, often rather distant from the coast. Their breeding-time is between July and September. In November and December they seem to migrate to the south in large flocks.

116. STERNA VELOX, Rüpp.

More frequent in the southern parts of the Red Sea. Breeds in July and August. Not rare on the Somali coast.

117. STERNA AFFINIS, Rüpp.

With the former.

118. STERNA CASPIA.

In pairs through the whole year in the Red Sea and the Gulf of Aden. Abu Djirreh: Arab.

119. STERNA FULIGINOSA.

In pairs or little flocks in the Red Sea south of 14° N.L., and on the Somali coast. Rare on the Guano-island of Bur-da-Rebschi. Gullet bluish-carneous. [A specimen of the *younger bird*: above, dark brown with white spots; below, paler brown; beak, white; agrees exactly with the figure given by Gould, in the 'Birds of Australia,' pl. xxxii. vol. 7.—ED.]

120. STERNA INFUSCATA.

With the former; not found on the island of Bur-da-Rebschi. Length, 14″; wing, 9″ 9‴; tars. 9‴. Gullet blackish.

121. Sterna, sp.

122. Sterna minuta.

In summer on the Red Sea, in small flocks from 3–6 birds. *Dighés*, Arab.

123. Sterna senegalensis, Sw.

In large flocks south of the tropic. Breeds socially on coral islands in July, August, and September. *Abu-batén*, Arab.

124. Sterna meridionalis, Br.

Near Massaua.

125. Anous tenuirostris.

Single individuals on the whole Red Sea. On my last voyage only south of 14° N.L., from the end of September. In countless numbers in the Gulf of Aden, where it breeds in the height of summer on the island of Bur-da-Rebschi; we could easily catch them with our hands. Length to the end of wing 14″ 13‴; wing 9″ 6‴; tarsus 10‴. Gullet pale-yellow; interdigital membranes dark yellowish-carneous.

126. Phaëton æthereus.

Singly or in small flocks of from three to six on the Dahalak Isles, near Amphila, Ras Belul, Aden, and about Bur-da-Rebschi. Manners and voice much like *Sterna caspia*. Appears to copulate while *swimming*, in the month of August.

127. Dysporus sula. (L.)

On the whole Red Sea, alone and in flocks.—*El Smet*, Arab.

128. Sula melanops, Hartl., n. sp. (Plate X. fig. 2.)

Mas ad.: Alba, subflavescens; remigibus, scapularibus tectricibusque alarum extimis et rectricibus nigris, omnibus ad basin albidis vel pure albis; scapis infra albis; flexura alæ alba; rostro virescenti-flavo, basi nigro; periophthalmiis et membrana gulari rotundato-truncata nigris; iride rubescenti-flava; pedibus cærulescenti-plumbeis, membranis obscurioribus, unguibus corneo-nigris, ad apicem albidis; digiti medii margine serrato toto albo. Long. 27–28″; rostr. a rict. 4″ 6‴; rostr. a fr. 3″ 9‴; al. 16–$16\frac{3}{4}$″; caud. 8″; tars. 2″; dig. med. c. ung. 3″ 10‴–3″ 11‴. *Jun.*: Capite, collo et corpore supra fuliginosis; fascia nuchali pallidiore parum conspicua; plumis dorsi ad apicem et ad basin albidis; subalaribus albo brunneoque variegatis; remigibus et cauda fusco-nigris; corpore inferiore reliquo albo-flavescente; iride brunneo-flava; rostro magis virescente.

Only about Bur-da-Rebschi or Djebel-tiar, a guano island, five miles distant from the Somali coast near Mēd, where we observed six or eight pairs; probably also on Abd-el-Kuri and the cliffs of Cokotora. In November I found fledged young on Bur-da-Rebschi. The flight of the adult bird is waving, Albatros-like, and not so rapid as that of *Sula fusca* or the Cormorants. The young birds are stupid and easy to be caught by the hand. They seem to feed solely upon fishes. Not difficult to tame.

[If not *Sula cyanops* of Sundeval, this species is new! But Sundeval calls the face and naked throat simply *blue*, the iris "*flavissima*," the beak *blue*, olivaceous at the tip, the feet "olive" !! The *Sula capensis* is altogether a larger bird, and quite different in the *elongate* form of the gular membrane, which runs down the fore-neck in a narrow line. The *Sula dactylatra* of Lesson, which I have never seen in any collection, had the feet *yellow*. —Ed.]

129. Pelecanus rufescens.

Not rare south of the Tropic, in the Red Sea and Gulf of Aden. Very frequent near Massaua and Amphila. *Abu-djirab*, Arab.

130. Phalacrocorax, sp.

A flock at the end of November near Bender Gam (Somali).

XXXIV.—*Five months' Birds'-nesting in the Eastern Atlas.* By Osbert Salvin, B.A., Corr. Memb. Zool. Soc. (Part III.)

[Concluded from page 318.]

98. Pterocles alchata. (Pin-tailed Sand Grouse.)

The extensive sandy plains termed the Harakta, of which El Tharf is one of the largest, are the only localities in which we met with this Sand Grouse. Like the following species, it makes no nest, but scrapes a slight hollow in the sand, in which it deposits its three eggs. These are laid in May, the young being hatched about the second week in June. The only species of *Pterocles* which occur in these elevated districts are

P. alchata and *P. arenarius:* further to the southward others are found.

99. PTEROCLES ARENARIUS. (Sand Grouse.)

Is found in the same localities as the last-mentioned species, but it also occurs about Djendeli and the Madracen, where I never met with *P. alchata*.

100. CACCABIS PETROSA. (Barbary Partridge.)

The Barbary Partridge is very abundant in all the country we visited, especially in the Regency of Tunis. It lays its eggs about the beginning of April, from eleven to fifteen forming the usual complement. It is known to the Arabs as "*El Hadjel.*"

101. TURNIX COTURNIX. (Quail.)

Vast numbers of Quails are said to occur along the eastern coast of Tunis, and in the adjacent islands, during the period of the spring migration in April. A few remain to breed, and they may be met with in scattered pairs all over the country.

102. OTIS TETRAX. (Little Bustard.)

Throughout the extensive plains of Tunis the Little Bustard seems generally and plentifully distributed. In the Eastern Atlas its favourite resorts are the Arab corn-fields and grassy pastures; and it appears to seek rather than avoid cultivation, in this respect widely differing in taste from its congeners, *O. tarda* and *Houbara undulata*. The eggs of this species are laid about the middle of May, but some birds defer the period of incubation till June, as we obtained eggs as late as the 27th of the latter month. The nest was usually found in a corn field. One shown me by an Arab near Aïn Djendeli was so situated. It consisted merely of a little dry grass placed in a slight hollow in the ground. There were two eggs in this nest when it was shown to me. While I was endeavouring to make the Arab comprehend that if unmolested the bird would lay more, he destroyed the nest with a stick in his hand, but fortunately did not injure the eggs. Three or four seems to be the usual complement of eggs laid by one bird.

103. HOUBARA UNDULATA. (Houbara Bustard.)

We only meet with the Houbara in the Harakta country near

Guerah el Tharf. As this country was worked by Mr. Simpson while I was at Djendeli and Zana, I have nothing noted of the habits of this bird, as I did not see it when passing through that district.

104. Œdicnemus crepitans. (Stone Curlew.)

This bird was our constant companion while encamped in the lake districts. We seldom used to see it during the day, but towards evening and after sundown the cries of several individuals resounded incessantly round our tents.

105. Cursorius gallicus. (Cream-coloured Courser.)

It was not until the end of June that I met with this bird. We had just broken up our final camp at Zana, and were returning by way of the Caravanserai of Aïn Yacoute to Constantine, when, at a short distance from the former place, we encountered a small flock in one of the undulating and sterile plains through which the high road to Batna and Biskra runs. The birds showed little symptoms of fear, and ran before our horses, or flew round our heads. At the time we thought they were not breeding there, but, as they were all in full adult plumage, I have since considered that they were there for no other purpose. The fact was, our faces were set homewards, and it was difficult to stop, even for the eggs of the Cream-coloured Courser. Mr. Tristram kindly gave me one of the eggs obtained by him, as mentioned in The Ibis, Vol. I. page 79; and, comparing this with Mr. Gurney's and Mr. Newton's examples from Tangiers, I may remark that, as regards my own specimen, the intensity of colour is decidedly in favour of the latter; and I attribute this inferiority to the effect of exposure, which in the parching climate of Southern Algeria is fatal to the colour of eggs.

106. Glareola pratincola. (Pratincole.)

The Pratincole was found in the table lands of the interior, frequenting the salt lakes and freshwater marshes. Its fearless manner and familiar habits cause it to rank high among the interesting birds of the country; and I remember few that I have watched with greater pleasure. When in proximity to their nests, the whole flock come wheeling and screaming round, while some dart passionately down to within a few feet of the intruder's head, retiring again to make another descent. When the first transports of excitement are over, they all alight one by one on the ground. Some stand quite still, watching with inquiring gaze; while others stretch themselves out, first expanding one wing, then the other, and sitting down extend both legs. In this position they remain some seconds as if dead, when, suddenly springing up, they make another circuit over head, and the whole flock passes quietly away. The bird makes no nest, but deposits its three eggs in a slight depression of the bare sand. The eggs are usually placed with their axes parallel. We several times visited places where numbers of these birds were breeding; yet we never succeeded in finding a young one, though many of the eggs were on the point of being hatched. This fact certainly favours the idea that on leaving the egg the young are capable of running like those of other *Grallæ*.

107. CHARADRIUS PLUVIALIS. (Golden Plover.)

I several times saw flocks of Golden Plover near the city of Tunis in February and the beginning of March.

108. ÆGIALITES CANTIACUS. (Kentish Plover.)

Occurs in abundance along the shores of the large lagoon of El Baheira which lies between Tunis and La Goletta. We afterwards found it breeding on the borders of most of the salt lakes in the interior.

109. ÆGIALITES MINOR. (Little Ringed Plover.)

In the neighbourhood of the marsh of Zana, we more than once met with this bird, but were unsuccessful in obtaining its eggs.

110. GRUS CINEREA. (Crane.)

The Crane is found in Tunis in great numbers during the winter months, frequenting the large plains. On one occasion, between Tunis and Oudena, I counted 108 of these birds on the wing at once. They are said to be migratory, and probably they seek their breeding haunts in the continent of Europe.

111. ANTHROPOIDES VIRGO (Demoiselle Crane).

Towards the eastern extremity of the marsh of Zana I several times saw a small flock. We arrived there too late to obtain their eggs.

112. Herodias garzetta (Little Egret).

The marsh of Zana, which I have occasionally mentioned above, is one of those places where the Waders and Ducks seem to delight in congregating; and, as the swampy ground is of very limited extent, few spots furnish a richer feast to the eye of a devotee to the science of Ornithology. Our tents were pitched close to the springs at the western end of the lake, not far from the Marabout of Sidi el Hadj ben Ameer, an unimposing edifice erected to the memory of a saint of peculiar sanctity, but then tenanted only by a pair of Storks (*Ciconia alba*) and their young brood. My favourite walk in the morning was to take a circuit of the marsh. Starting at break of day, the first sound that assailed my ears was the harsh note of *Sylvia turdoïdes*—a small patch of reeds, not 60 yards from our tents, being occupied by a pair of these ceaseless chatterers. Attention would next be called to the Storks on the Marabout, which, on any one approaching, would make their young crouch down in their nest, while they, standing over, would assume an expression calculated to lead one to suppose that they were perfectly innocent of the existence of the young brood at their feet. As I walk on a few yards further to escape the din of a noisy colony of Spanish Sparrows (*Passer salicicola*), and stand still, the morning air bears from the neighbouring reeds the soft rattling note of Savi's Warbler (*Locustella savii*) to my ears, and I see the little songster perched on the extremity of the tallest reed, pouring forth its peculiar song, which, now swelling, now softening, has given to the bird the title of a ventriloquist. A few yards further, and the Pratincoles (*Glareola pratincola*) attract my attention by their incessant cries and furious attacks, as if resenting my intrusion in their domain. Among them may be a few Stilts (*Himantopus melanopterus*), which, after making a circuit overhead, alight close to a small pool of water. In this are seen some Shovellers and White-eyed Ducks (*Spatula clypeata* and *Nyroca leucophthalma*), which allow me to survey them with my telescope, but on closer inspection betake themselves to the reeds. As I turn now along the northern side of the marsh, I hear the Water Hen and Water Rail (*Gallinula chloropus* and *Rallus aquaticus*) harshly calling, while now and then a Wild Duck (*Anas boschas*) or Pochard (*Fuligula ferina*) flies out, and, wheeling round, returns. Here too an occasional Squacco Heron (*Buphus ralloïdes*) or Sandpiper (*Totanus glareola*?) rises; and passing suddenly a corner of the reeds, a startled Purple Water Hen (*Porphyrio hyacinthinus*) makes all possible haste to gain the denser cover. Leaving the tall reeds, and plunging knee-deep into water and mud, I now come upon the main body of Squacco Herons, and here and there a Bittern (*Botaurus stellaris*); here too may be seen the active little Baillon's Crake (*Crex baillonii*), allowing one but a momentary glimpse as it passes into the sedge. In the more open part, further to the eastward, Stilts occur in great abundance; and I never miss an opportunity of watching the ease and grace with which they manage their apparently unwieldy legs. As their nests are near, these birds make the air resound with their harsh, discordant cries. Near the Stilts I usually see an Avocet (*Recurvirostra avocetta*) or two stalking quietly about the marsh in search of food. Here, too, most of the ducks are to be seen; and 200 or 300 yards lower down, troops of Ruddy Shieldrake (*Casarca rutila*), and with them a small flock of Demoiselle Cranes (*Anthropoïdes virgo*). These last wend their way eastward to Chot Saboun, and I see them no more. Returning by the south side of the marsh along the water's edge, I find the Kentish Plover, and occasionally a Little Ringed Plover (*Ægialites cantiacus* and *Æ. minor*); while in the short reeds stand a row of Buff-backed Herons (*Herodias russata*), contrasting strangely in their sluggish movements with the active Little Egrets (*Herodias garzetta*), some five or six of which may be feeding near with a Glossy Ibis (*Ibis falcinellus*), the "Devil Heron" in their company. The Buff-backs wake up as I approach, and fly away to the Roman ruins close by, there to bask again, standing, some on the overturned stones, some on the decorated arches, two of which still stand at the northern extremity of the old city. The pools on the south side are full of Coots (*Fulica atra*), and here and there a White-headed

Duck (*Erismatura mersa*); and here, too, it was that I used to see the greatest number of Red-crested Whistling Ducks (*Branta rufina*). A distant screaming warns me to watch the Gull-billed Terns (*Gelochelidon anglica*) as they come skimming the water, making for the freshly-cut grass-fields to seek their breakfast of beetles and grasshoppers. At every corner of the reeds I now startle up a Little Bittern (*Ardetta minuta*); and the Grey-headed Wagtail (*Budytes flava*) continually shows itself. Soaring over the Arab tents, if the dogs allow me to look up, I see Egyptian Vultures and Black Kites (*Neophron percnopterus* and *Milvus ater*), and nearer the cliffs a few Choughs and Alpine Swifts (*Pyrrhocorax graculus* and *Cypselus melba*). My walk is now terminated; and, ready for breakfast, I usually find the tents beset by Arabs: most of them come to talk with our servants, but some with more profitable intent, bearing vegetables, cooscoos and corn. The boys bring eggs or information about nests—the object of another ramble.

Though we never obtained the eggs of the Little Egret, I am inclined to think it a much earlier breeder than either the Buff-backed or Squacco Herons, as a female I shot at Zana, on June 22nd, bore every appearance of having hatched its young—the moulting of the feathers having advanced considerably, and the eggs in the ovary being small.

113. Buphus bubulcus. (Buff-backed Heron.)

Though local, the Buff-backed Heron occurs abundantly where it is found. I first met with it near Bizerta and afterwards at Zana, at which latter place it was common, a large flock frequenting the marsh. We did not obtain any of their eggs, and to all appearance the birds had not entered upon their domestic duties when we left their haunts. Is the bird mentioned in Mr. E. C. Taylor's 'Ornithological Reminiscences of Egypt,' and called by him *Ardea russata* and *Ardea bubulcus*, Savigny, this bird, or its Indian representative *? The eggs from Ceylon are very different from those of this species collected by Mr. Tristram and Capt. Loche.

---

* We believe that there is no doubt that the Egyptian bird is the true Buff-backed Heron—the same species which occurs in England. The Indian *Ardea coromanda*, Bodd., to which bird Temminck first applied the epithet *russata* (See Man. d'Orn. ed. 2. p. 566), is not separable, according to G. R. Gray, but is distinguished by Bonaparte (Consp. ii. p. 125).

114. Buphus ralloïdes. (Squacco Heron.)

Common in the marsh of Zana, but found in single birds or two or three together, rather than in flocks like the Buff-backed Herons.

115. Ardetta minuta. (Little Bittern.)

I only met with this bird in the marsh of Zana, where it is extremely common.

116. Botaurus stellaris. (Bittern.)

A few pairs of Bitterns frequented the marsh of Zana. As far as we could ascertain, they had laid their eggs and hatched their young before we had arrived there.

117. Nycticorax griseus. (Night Heron.)

I only observed this bird on the lake of Bizerta, where we found a few sitting about the fence-work made for stopping the fish.

118. Ciconia alba. (White Stork.)

Abundant at Bona and the old towns in the Regency of Tunis.

119. Ibis falcinellus. (Glossy Ibis.)

I several times saw a Glossy Ibis accompanying a small flock of Little Egrets at Zana. It would appear, from Mr. Tristram's account of them at Lake Halloula, always to show this partiality for Herons, but not to be constant in its attention to one species.

120. Numenius tenuirostris. (Slender-billed Curlew.)

In the Regency of Tunis, on more than one occasion, I saw a flock of these Curlews, and, on an undulating plain near El Djan, succeeded in shooting one.

121. Totanus ochropus. (Green Sandpiper.)

While searching for snipe in a small marsh near Sousa, Mr. Simpson shot one of these birds.

122. Totanus calidris. (Redshank.)

Observed in the same marsh.

123. Recurvirostra avocetta. (Avocet.)

We only saw the Avocet at Zana and Djendeli, though we did not until afterwards recognize the birds seen at the latter place as belonging to this species, which they undoubtedly did. At Chot Saboun, the eastern extremity of the marsh of Zana, the bird was most numerous. I myself only saw an occasional bird near our camp at Zana, Chot Saboun involving a longer ride than I could take without an attack of the climatic fever under which I suffered during the last three months of my stay.

124. HIMANTOPUS MELANOPTERUS. (Black-winged Stilt.)

Abundant at Zana, a few pairs occurring at Djendeli and Guerah el Tharf. Over the whole of the lower end of the marsh of Zana and Chot Saboun the Stilt breeds in great abundance amongst the wet grass, choosing for the position of its nest a small tuft, so as just to keep the eggs out of the water. Sometimes, however, this object is not attained, as we occasionally found nests in which the eggs were half immersed. The bird uses its long legs with much greater ease than might be expected; and its long, deliberate strides, as it stalks about in search of food, are far from being ungraceful. The only time they seem to be in its way is at the moment of taking flight, when they hang awkwardly down till the bird, being fairly started, stretches them out, extending them far beyond the tail. We used to search for the nests of this bird on horseback, and, on observing one sitting, to ride up without taking our eyes off the place. The bird would remain quiet till we were within thirty yards of the nest, when it would walk slowly away, till, aware of our purpose, it would rise and fly wheeling and screaming overhead. The young Stilt is able to walk almost immediately on leaving the egg; one we found was capable of moving about while the other three were struggling to free themselves from the shell. The nest is composed of a few bits of dead reed or grass. The complement of eggs laid by one bird is four.

125. SCOLOPAX GALLINAGO. (Common Snipe.)

Mr. Simpson and I found several Snipes in a small marsh near Sousa. I afterwards put one up at Zana, about the middle of June.

126. RALLUS AQUATICUS. (Water Rail.)

Common in the marshy ground of Zana and Djendeli.

127. CREX BAILLONII. (Baillon's Crake.)

This shy little bird we used to see occasionally at Zana, where we obtained one nest, which an Arab brought to our tents.

128. PORPHYRIO HYACINTHINUS. (Purple Water Hen.)

This magnificent species is common at Zana, where it keeps very much out of sight under the cover of the taller reeds. It is, I believe, in the habit of destroying the Ducks' nests whenever it can get an opportunity. Many a time did we leave a nest for the satisfactory determination of the species to which it belonged, and return to find every egg broken and sucked out. It may be calumny to ascribe these depredations to *Porphyrio hyacinthinus*; but I strongly suspect the charge is not unfounded. The eggs are so much taken by the Arabs that I can speak with no certainty of the usual complement laid by one bird.

129. GALLINULA CHLOROPUS. (Water Hen.)

Excessively common at Zana, judging from the number of eggs brought to us by the Arabs.

130. FULICA ATRA. (Coot.)

Also common at Zana, Djendeli, and Bizerta, in none of which places did I observe the Crested Coot (*Fulica cristata*).

131. PHŒNICOPTERUS ANTIQUORUM. (Flamingo.)

It seems to be an almost universal rule throughout the world, that where their are salt lakes, there Flamingos are found *. It certainly is the case in Tunis, and the province of Constantine in Eastern Algeria; no permanent salt lake of any extent is without them. Every one who has visited Tunis must remember the vast numbers that are to be seen in the lagoon of El Baheira and the lake on the north western side of the town, and will recall to mind the magnificent sight of a thousand or more of these beautiful birds rising from the water at one time, the whole mass, from the colour on their expanded wings, looking like an animated rosy cloud. They are extremely difficult of approach; and I only succeeded in shooting one, which proved to be a splendid male. On dissecting this bird, I found in the gizzard nothing but the vegetable matter that grows at the bottom of these lagoons; I am therefore led to suppose that this forms the principal part of its food, and not the worms which burrow in the mud, as Mr. Darwin suggests. ('Naturalist's Voyage,' new ed. page 66.) We found the bird equally abundant at Djendeli throughout the month of May, but obtained no certain clue to its breeding localities or nesting habits: the Arabs could tell us nothing, and we were unable to discover anything ourselves.

---

* Mr. Darwin ('Naturalist's Voyage,' new ed. page 66) states that he found Flamingos in Patagonia, Northern Chili, and the Galapagos Islands, frequenting the salt lakes. They are also found in the salt lakes of Siberia. (See 'Pallas's Travels, 1793 to 1794,' pp. 129–134.) The whole physical features of the Eastern Atlas range suggest the idea of its recent elevation above the sea-level; and I would include the upheaval of this portion with that of the Sahara, as conjectured by Mr. Tristram. (Ibis, vol. i. p. 155.)

132. Casarca rutila. (Ruddy Shieldrake.)

Though this bird is numerous in all the salt lakes of the elevated plains, its egg is one of the most difficult to obtain. One nest only rewarded our labours. The rarity of the eggs is hardly so surprising, when the situation chosen by this bird for its nest is considered. It selects a hole or crevice of a cliff for its breeding place, and associates with the Raven, the Black Kite, and Egyptian Vulture during the period of the reproduction of its young. Almost immediately on encamping at Aïn Djendeli we used daily to see a pair of Ruddy Shieldrakes pass over our tents, their direction always being backwards and forwards between the cliffs to the south of us and the small, marsh between us and the lake. After careful investigation, the nest was discovered to be in a hole in the face of a rock, which required all the skill of Mohamed and all our appliances of ropes, &c. to reach. The result was four hard-set eggs, which are now in the collections of Messrs. Tristram, Simpson, J. Wolley, and myself. Though the Arabs were aware of the habits of this bird, we did not succeed in obtaining any more eggs. It is probable, from its name, that the Mountain Goose (*Casarca cana*) of South Africa has similar habits. These facts suggest the interesting question as to how and when the young, when hatched, are conveyed from their aerial home to their natural element, upon which I regret to say I can throw no satisfactory light.

133. Anas boschas. (Wild Duck.)
Common at Zana.

134. Chaulelasmus streperus. (Gadwall.)
Also common at Zana.

135. Pterocyanea circia. (Garganey.)
I shot a Gargany in the Medjerdah just below Djebel Dekma during the first week in April.

136. Spatula clypeata. (Shoveler.)
In a small open pool of water to the northward of the Marabout of Sidi el Hadj ben Ameer at Zana, I used generally to see a pair of this Duck. It did not seem a common bird in the marsh.

137. Branta rufina. (Red-crested Whistling Duck.)
In the open pools at the upper end of the marsh of Zana, I used frequently to see several pairs of the Red-crested Duck. Two nests only were obtained. The second lot, consisting of seven eggs, were of a most brilliant fresh-green colour when unblown; the contents were no sooner expelled, and the egg dry, than the delicate tints were gone, and their beauty sadly diminished.

138. Fuligula cristata. (Tufted Duck.)
Abundant in the lake of Bizerta in March.

139. Fuligula ferina. (Pochard.)
Very abundant during the winter months in the lagoon of El Baheira. At Zana it was far from uncommon, but we were not fortunate in obtaining their eggs with certainty. The Arabs of the encampments surrounding the marsh ransack the whole of it for the eggs of the birds that breed there, those of the Ducks being their special object of search. The consequence was, we were unable to induce them to leave a nest, when found, in order that by showing it to us, we might, by seeing the bird, identify the species. It was, after all, giving up certainty for uncertainty on the part of the finder; for if we refused to buy the eggs, he still had them to eat; while, if he left them, another Arab was almost sure to take them. We had not much better fortune with some French mowers, who were there making hay for a

detachment of cavalry; for they found the Ducks' nests by cutting the grass over them, and desertion on the part of the bird infallibly ensued if the eggs were left.

140. Nyroca leucophthalma. (White-eyed Duck.)

This bird also breeds at Zana and Djendeli. We were more fortunate in obtaining their eggs than those of the other species of Ducks. The Widgeon (*Mareca penelope*) is not found in either place, at least we never saw it; and so brilliant a bird as the cock could hardly have escaped observation; consequently the eggs from these districts may fairly be ascribed to this bird, as no other Duck in the country lays similar eggs.

141. Erismatura mersa. (White-headed Duck.)

Is common in the lagoon of El Baheira. We afterwards saw it at Djendeli and Zana, but did not obtain its eggs.

142. Podiceps cristatus. (Great Crested Grebe.)

Occurs in the lagoon of El Baheira.

143. Podiceps auritus. (Eared Grebe.)

Very common in the lagoon of El Baheira during the winter. I afterwards observed it in Lake Djendeli, but did not obtain any eggs.

144. Podiceps minor. (Little Grebe.)

At Zana the Little Grebe is common, and breeds there.

145. Thalasseus cantiacus. (Sandwich Tern.)

I shot a Sandwich Tern flying over the lagoon of El Baheira, and saw others.

146. Gelochelidon anglica. (Gull-billed Tern.)

The representative of this species in the lagoons of Tunis and the lakes of the interior appears to differ immaterially from the true *G. anglica*, which extends its range into India. Mr. Gould, who has kindly compared my examples with his own, assures me that this is the case. At Zana we found it breeding, a considerable number frequenting the marsh. Numerous as the bird was, we only obtained five eggs; one other egg our servant Bilgarzoum broke, having wound it up in his turban by way of putting it in a safe place to take it to the tents. Of course, when he went to unfold it, it was hopelessly flat. No reasonable doubt can exist regarding these eggs, as no other bird at Zana could possibly have laid them, but we did not take any ourselves. They build, probably, on some of the small mounds on the north side of the marsh, which stand like islands out of the swampy ground. The statement in Mr. Tristram's Sale Catalogue of 1858, describing their eggs as laid on the tops of the highest hills, was an idea we entertained at one time from a vague description, given by the Arab who brought us the first eggs, of the place where he found them. This idea we afterwards rejected as resting upon insufficient evidence. In fact we left Zana before these birds had begun to sit, and consequently were never able to determine the exact localities where they bred. These Terns feed over the grass fields and open land, hovering and descending, as our more familiar species do on the English coast over a shallow, their food being grasshoppers and beetles, which there swarm, instead of sand-eels.

147. HYDROCHELIDON FISSIPES. (Black Tern.)

On one occasion I saw Black Terns skimming over the lake of Djendeli.

148. CARBO CORMORANUS. (Cormorant.)

Several Cormorants share with the Ospreys (*Pandion haliaëtus*) the posts set up in the lagoon of El Baheira.

I regret that I have been able to give so imperfectly the Arabic names of the birds in the preceding pages. Much more complete information on this point will be found on referring to Capt. Loche's 'Catalogue des Mammifères et des Oiseaux observés en Algérie', published at Paris, 1 vol. 8vo.

XXXV.—*Observations on the Birds of St. Croix, West Indies, made, between February 20th and August 6th* 1857 *by* ALFRED NEWTON, *and between March 4th and September 28th* 1858 *by* EDWARD NEWTON. (Part IV.)

[Concluded from p. 264.]

(Plate XII.)

† 50. [?] —— (?) FLAMINGO. *Phœnicopterus* —— (?).

Large bands of some species of Flamingo—probably the *Ph.*

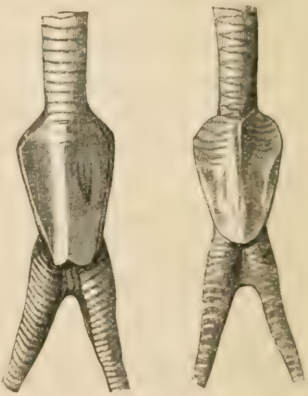
ruber of Linnæus—are said to have formerly visited St. Croix periodically, and even of late years a few seem to have been occasionally observed: on the south side of the leeward end of St. Thomas, a large indentation still bears the name of Flamingo-pan Bay.

51. Black-billed Whistling Duck. *Dendrocygna arborea*, Eyton. *Anas arborea*, L.: Edw. Birds, pl. 193; Pl. Enl. 804. "Mangrove Duck."

This species is pretty common on the Mangrove Lagoons, but much oftener heard than seen. The whistling noise it makes while flying causes it to be well known by persons who have never even set their eyes on a specimen; for it is chiefly at night that it quits its solitary haunts to feed. It probably breeds in the island; but we have no positive authority for saying that it does so, and we regret we cannot furnish more information respecting it.

"I procured specimens of both sexes; and, as the trachea of no one member of the genus *Dendrocygna* has been figured, that I am aware of, I am glad to be able to give a representation of the organ in this species. The labyrinth, in form, may recall that of the Garganey (*Pterocyanea circia*, Bp.), but is sufficiently different from it in many respects.

"I have not seen specimens sufficient to be able to record the seasonal changes of plumage in this species. A male, killed July 21st, 1858, bore no sign whatever of moulting. In general appearance it greatly resembled a female obtained September 17th, 1858. The iris was brown, the bill black, legs dull ash-grey, the feet darker, and the claws black."—E. N.



52. [?] American Scaup Duck. *Fulix affinis*, Baird. *Anas marila*, Wils. pl. 69. fig. 3; *Fuligula affinis*, Eyton; *Anas mariloïdes*, Vigors, nec Yarrell.

" On March 29th, 1858, I saw some ducks on a lagoon which appeared to me to be of this species, but I was at too great a distance to be able to say much about them."—E. N.

53. [?] DOMINICAN DUCK. *Erismatura dominica,* Eyton. *Anas dominica,* L.; Pl. Enl. 968.

" In 1857 a pretty large lagoon between the Green Quay and Southgate Farm Estates, at the eastern end of the island, was frequented by a small flock of what seemed to me to have been most likely this species. On March 9th I first saw some; but they were sitting motionless on the water, and, having only a small glass, I could make out nothing about them. But I had a good opportunity of seeing them one day in May; there were then a good many of them, perhaps twenty or twenty-five; they swam very low in the water: indeed it almost seemed as if the hinder part of their backs were beneath the surface; and their tails stuck up perpendicularly at some little distance off, almost as though they had no connexion with the birds. On June 15th I all but succeeded in getting a shot at some five or six of these ducks, and had another good view of them. The lagoon on which I found them is nearly divided into two unequal portions by a low point which juts out from one side of it: about halfway along this spit of land I placed myself, squatting down among the mangroves, while I sent the lad who was with me round to the other side to try and drive the birds within shot of me—they being then about the middle of this portion of the pond. He arrived at the spot I had pointed out opposite to me, and disposing his garments in graceful folds about his head and shoulders, walked into the water, which he found to be nowhere above four feet in depth. The Ducks thereupon ceased feeding, and collected together, but did not seem for a time ill-disposed to be driven my way, merely keeping some eighty yards in front of him, as he waded and they swam across. Suddenly they stopped, swam to-and-fro for an instant or two; and I felt sure they had divined my presence, probably by getting wind of me. In another moment they were up: away they went, flapping along the surface; and as they rounded the point towards the other part of the lagoon I lost sight of them. I still lay quiet, hoping they might come round; but they did not do so, nor could I discover whither they had gone. I do not think I ever saw the species again."—A. N.

We believe that several other species of *Anatidæ* occur from time to time, but especially in winter, in the island. From the descriptions which have been given us, we suppose the Dusky Duck (*Anas obscura,* Gmel.) and the American Wigeon (*Mareca americana,* Steph.) to be among the number; and in the spring of 1857, a flock of Wild Geese, probably the common Canadian species (*Bernicla canadensis,* Boie), were said to have been seen; we are, however, unable to indicate more particularly which members of the family come under the Creole designations of "Teal," "Wigeon," "Diver," &c.

† 54. BROWN PELICAN. *Pelicanus fuscus,* L.; Aud. pls. 423 & 424.

Probably the first birds to meet the eye of a stranger arriving at St. Croix would be a small flock of Pelicans. No shooting being permitted by the police in the roadstead of Frederiksted or harbour of Christiansted, they are there very tame, and take no heed whatever of what is going on, often flying within a few yards of the landing-stages or boats, utterly regardless of the human beings with whom they may or may not be crowded. In other places they are much more wary, and, unless one is concealed, admit of no near approach. A few may almost always be seen in a ride along the southern and western shores of the island, either resting lazily on a stump in the water, or with a degree of clumsy activity diving for fish, their occupation being to all appearance affected by the state of their appetite. When engaged in taking prey, they fly over the shallows which form their hunting-ground until they find a promising spot; there they alight and begin diving incessantly, and they seem always to rise to the surface, with their heads in a direction contrary to that in which they had them when they went under. They are said to breed on the island; but we were unable to ascertain that they did so, though they are probably resident all the year round; and we believe they do breed at Tortola or on some rocks adjacent to that island.

† 55. Booby. *Dysporus sula,* Ill.; *Pelecanus fiber,* & *P. sula,* L.; *Sula fusca,* Vieill.; Aud. pl. 426.

This species is met with occasionally in the island, but we are pretty sure that it does not breed in the immediate vicinity, and it evinces too great a partiality for the deep-sea fishery to occur often.

"One was brought to me alive in September 1858 by a negro, who said he had found it asleep. I tried to keep it, but could not induce it to feed itself. Food was forced down its throat for several days, but at last it died. It was of an extremely fierce disposition, showing even in its reduced state no signs of fear.

"Between St. Croix and St. Thomas, on September 28th, one came within five yards of the schooner in which I was; and I was told that one flew so close over the deck of one of the Royal Mail Company's steamers that it was caught on the wing by a passenger."—E. N.

† 56. Frigate Bird. *Tachypetes aquilus,* Vieill.; Pl. Enl. 961; Aud. pl. 421; *Fregata aquila,* Cuv. "Hurricane Bird."

This species we have only seen, as far as St. Croix is concerned, soaring at a very great height over the island or the adjacent sea, and a most beautiful sight it is to watch one or more of these birds hanging in the sky above. There is no motion to be observed in their wings; at one time the deeply forked tail is seen to be open, at another it is brought into a wedge-like shape, but the birds seem to rest immoveable. Before a gale, however, they are said often to fly quite low, or even to settle on the ground; and hence is derived their name, as under these circumstances they are more generally observed than at other times, and thus are said to be the forerunners of bad weather. This species is said to breed about Tortola.

"On February 18th, 1857, on my outward voyage, between the islands of Antigua and Radonda, I saw a large flock of what appeared to me to be Boobies (the last-mentioned species), which with loud croaks and shrieks were plunging about; every now and then the confusion amongst them being heightened by a Frigate Bird descending from aloft and giving chase. Unfortunately this exciting scene took place much too far from the ship to be well enjoyed by me."—A. N.

57. [?] —— (?) CORMORANT. *Phalacrocorax* —— (?) "Shag."

Some species of this sort of bird must sometimes occur in St. Croix, according to the accounts we have received.

† 58. [?] —— (?) TROPIC BIRD. *Phaëton* —— (?). "Boatswain."

We do not venture, in the absence of specimens procured on the island, to suggest which of the two Atlantic species of this genus it is that is sometimes observed in St. Croix. Perhaps both the Common (*Ph. æthereus, L.*)* and the Yellow-billed (*Ph. flavirostris,* Brandt) may occur there, since the former is said to breed on Tobago, and the latter on the Bermudas (Jardine, Contr. Orn., 1852, p. 351 *et seq.*), besides being met with on the south side of Cuba (Lawrence, Baird's Pac. R. R. Rep., Birds, p. 885); but the geographical range of the different members of this genus seems at present to be little understood.

"On my voyage out in 1857, I saw the first Tropic Bird, February 12th, in longitude 44°. It took two or three rapid turns round the ship, but a good way off and high up, and then it left us. Meanwhile I had had a good look at it with my glass, and could see its *red* bill very plainly. It was therefore clearly *Ph. æthereus.* The same day we had passed some floating animals not very much unlike Portuguese Men-of-war (*Physalia*) in shape, but a good deal smaller, for which I tried in vain to fish. Whether to connect the birds' appearance with theirs or not, I do not know. The flight of a *Phaëton* does not resemble that of any sea-bird I am acquainted with; its chief peculiarity consists in the regular and rather rapid strokes of the wing, without, as far as I could see, any intermission."—A. N.

---

* Examples which are said to have been of this—though perhaps merely because it seems to be the best known—species have occasionally been met with in Europe, and there is good reason to believe that it has once occurred in England. British ornithologists, however, have fortunately not hitherto provided it with Letters of Naturalization. There can be, we think, little doubt that the "Tropical Bird" mentioned at page 164 of the 'Natural History of Lancashire, Cheshire, and the Peak' by C. Leigh (London : 1700), was a specimen of *Ph. æthereus,* L., and the bird recorded by the late Professor J. Fr. Naumann in the preface (p. iv.) to the twelfth and last volume of his 'Naturgeschichte der Voegel Deutschlands,' as having been taken at Heligoland, was probably of this species.

"I saw the first Tropic Bird on my outward voyage in 1858, February 27th, our position at noon on that day being lat. 29° 22′ N., long. 42° 42′ W."—E. N.

† 59. [?] Black Skimmer. *Rhynchops nigra*, L.; Wils. pl. 60. fig. 4; Aud. pl. 433.

"On June 14th, 1858, between St. Thomas and St. Croix, a bird, I believe of this species, passed close to the vessel I was in; I could see its black back and white belly distinctly."—E. N.

† 60. [?] Sooty Tern. *Onychoprion fuliginosus* (Gmel.). *Sterna fuliginosa*, Gmel.; Wils. pl. 72. fig. 7; Aud. pl. 432; Yarr. B. B. 3rd edit. iii. p. 543, fig.

"Towards the end of May, 1857, I saw about midway between St. Thomas and St. Croix several birds which appeared to me to be of this species."—A. N.

Mr. Osbert Salvin informs us that on the 29th of May last (1859), when passing along the south side of Tortola and St. John's, he saw a good many of these birds. They came close to the ship, and he could make them out quite well. At the same time he also saw some Noddies (*Anous stolidus*, Leach), which species probably occurs about St. Croix as well.

† 61. Royal Tern. *Thalasseus regius*, Gambel. *Sterna cayana*, Aud. pl. 429.

In 1854 we received from St. Croix a specimen apparently of the species above cited, which had been killed in the island; and round its shores we have not unfrequently seen Terns flying, which, from their size, we should judge to be the same as that example.

† 62. Laughing Gull. *Chrœcocephalus atricilla* (L.). *Larus ridibundus*, Wils. pl. 74. fig. 4. *L. atricilla*, Aud. pl. 443; Mont. Orn. Dict.; Yarr. B. B. iii. p. 439.

We have often seen a small Gull with a dark hood about St.

Croix, and, as we obtained skins of the true Laughing Gull at St. Thomas, we have not much hesitation in referring the former to this species*. It generally keeps in small flocks at no great distance from the shore. We do not know that it breeds on any of the neighbouring islands, but the harbour of St. Thomas is seldom without its little foraging party.

† 63. [?] —— (?) STORM-PETREL. *Thalassidroma* —— (?).

64. [?] —— (?) STORM-PETREL. *Thalassidroma* —— (?).

"On the 14th June, 1858, being between St. Thomas and St. Croix, a pair of small Storm-Petrels came under our lee for some minutes. On September 28th I saw some two hundred Storm-Petrels of a larger size, feeding much after the manner of Shearwaters (*Puffinus*, Briss.) near the harbour of Christiansted. The former of these birds I should imagine to have been Wilson's (*Th. wilsoni*, Bp.) and the latter Bulwer's Storm-Petrels (*Th. bulweri*, Gould); but I am only certain of one thing, which is that the examples seen on these two occasions were of two different species."—E. N.

"I saw no Storm-Petrels in the West Indian seas †; but on my passage from St. Thomas to Halifax, Nova Scotia, towards the end of August 1857, a day or two before arriving at the Bermudas, two or three came round the steamer, and these seemed to me to be *Th. wilsoni.* North of Bermuda we had a larger escort, amounting perhaps to forty or fifty at once, and there were clearly two species among them, but which they might have been I do not pretend to say. We were going at a good speed; and I fished for them to no purpose."—A. N.

---

* We believe that hitherto the only instance recorded on reliable authority of the occurrence in Europe of *Ch. atricilla* is that mentioned by Colonel Montagu, as quoted above, and this so long ago as the month of August 1774. The statements of M. Temminck (Man. d'Orn. ii. p. 779 *et seq.*) have been copied by other naturalists, for example, Professor Savi (Orn. Tosc. iii. p. 76) and Mr. Yarrell (B. B. iii. p. 442); but Dr. Schlegel has shown (Rev. Crit. p. 114 *et seq.*) that these originated in an error of Herr Natterer, who mistook individuals of the Mediterranean *Larus audouini*, Payreaudeau, for those of this species.

† "On the occasion mentioned in my note on the Frigate Bird (*vide supra*), mingling with the large flock of Boobies were a great many birds evidently Petrels, apparently about the size of our Manx Shearwater (*Puffinus anglorum*, Ray) and similarly coloured, that is to say, dark above and white beneath, but having much more the flight of a Fulmar (*Procellaria glacialis*, L.). They were, I suspect, of the species known to the French colonists of Guadeloupe as '*le Diablotin*,' mentioned, but not described, by M. De Lafresnaye in 1844 (Rev. Zool. vii. p. 168), under the name of '*Procellaria diabolica*, L'Herminier,' being doubtless identical with the *P. meridionalis* described by Mr. G. N. Lawrence in 1847 (Ann. Lyc. N. H. New York, iv. p. 475), and most probably with the *P. hæsitata* of Dr. Kuhl (Beitr. zur Zool. p. 142). If this be the case, the last-mentioned name, having been published in 1820, has the priority, and should be used.

We have now enumerated all the species of birds which we have satisfactory reasons for believing to be found in St. Croix; but we must beg leave to subjoin a few remarks on some which have been said by former observers to occur in the neighbouring islands, and which further investigation may discover in the locality of which we have been treating.

The earliest work noticing the Natural History of the Danish West Indian Colonies, with which we are acquainted, is that of Dr. West, published, it would seem, at Copenhagen in 1793. The original edition we have not ourselves examined; but we have seen a translation of it into German*, which was made the following year, from which it appears that, though the Flora and some portions of the Fauna are more or less fully treated of, only two birds are mentioned (p. 243), namely—

"*Ardea cærulea.* v[*ulgo*]. *Gaulding*, Crab-eater."

and "*Fulica chloropus.* v. *Coob* [sic], *Wasserhuhn.*"

The former of these is, we imagine, not the Linnean species of that name, but *Butorides virescens* (No. 46) of this paper, while the latter is, of course, *Gallinula galeata* (No. 43).

The next author who treats of the Zoology of the Virgin Islands, to which group St. Croix and St. Thomas belong, is M. Ledru, one of the naturalists accompanying the expedition (whereof the celebrated Maugé was also a member) commanded

---

Mr. G. R. Gray's carefully drawn-up list of the synonyms of this and three other very distinct species which have been confounded with it, will be found in the 'Zoologist' for 1852 (x. p. 3696). The short list given by the late Mr. Yarrell (B. B. Suppl. 2, p. 63, and 3rd Edit. iii. p. 643), as well as his statement that a figure of this species is given by Forster in his unpublished drawings, is, I regret to say, incorrect."—A. N.

* "Beyträge zur Beschreibung von St. Croix, &c.: von Hans West, Rector am Westindischen Schulinstitut, &c. Kopenhagen, 1794." 8vo.

by Captain Baudin in the years 1796-8. His work *, accompanied by notes by M. Sonnini, was not published until twelve years after his return to France. It contains an "Essai sur l'histoire naturelle des îles danoises," from which (vol. ii. p. 39) we transcribe what relates to the birds, adding our own comments.

"La petite perruche, ou tovi à tête d'or.—*Psittacus tui* Gm., 352." This is in all probability the Parrakeet which is now found in St. Thomas, and there only (as far as we know), restricted to the hills on the eastern side of the harbour, called Havensigt. To our brother, Mr. F. R. Newton of St. Croix, we are indebted for some specimens of this bird, obtained during the past summer, which not only, as indeed might have been predicted from its *habitat*, is not Gmelin's *Ps. tui*, but appears to be a species hitherto undescribed. It belongs to the genus *Conurus*, and, though it a good deal resembles *C. æruginosus* G. R. Gray, yet differs from that bird in wanting the brown throat. We subjoin the character of this new species drawn up by Mr. Sclater, who has bestowed upon it the name of *Conurus xantholæmus*, and described it in the 'Annals of Natural History' for September last (ser. 3, vol. iv. p. 225):—

"Læte viridis, pileo summo cærulescente; fronte lato, oculorum ambitu, lateribus capitis et gula aurantiaco-flavis: pectore fulvescente: abdomine et tectricibus alarum inferioribus pallide flavo-viridibus, ventre medio aurantiaco-flavo: remigibus alarum intus fusco-nigris, extus cærulescenti-viridibus; cauda subtus flavicanti-olivacea, supra dorso concolore, apicem versus cærulescente; rostro nigro, pedibus nigricantibus. Long. tota 9·5, alæ 5·3, caudæ 4·3."

The next birds in M. Ledru's list are—

"Le carouge de Cayenne.—*Oriolus Cayennensis*†, Gm., 391;" and "Le grèbe-duc-Laart.—*Colymbus thomensis*, Gm., 592:" neither of which do we know. And then comes

"Le pigeon vert.—*Columba Sancti-Thomæ*, Gm., 778"—

---

* "Voyage aux Iles de Ténériffe, la Trinité, Saint-Thomas, Sainte-Croix et Porto-Ricco, &c. Par André-Pierre Ledru, &c. Paris, 1810." 2 vols. 16mo.

† Perhaps *Pendulinus dominicensis* (Linn.), which is common in St. Domingo, and, we believe, occurs in Porto Rico.—Ed.

of which we trust we may yet obtain specimens, though we have never met with any person in the island who was cognizant of a Pigeon in which green was the prevailing colour. Gmelin's *C. sancti-thomæ* is by Mr. G. R. Gray (List of Columbæ, B. M. (1856), p. 13) referred, but with doubt, to *Treron phœnicoptera*, Blyth, a Nepalese species, with which the bird from St. Thomas is hardly likely to prove identical.

M. Ledru says that MM. Baudin and Maugé brought from St. Thomas "le cou-jaune,—*Matacilla* [*sic*] *pensilis*, Gm., 960, qui ressemble un peu à la linotte,—*fringilla linota*; mais il est plus mince et plus jaune."! We have before stated that we are sure that any person, on the look-out for birds in these islands during the winter months, would meet with many more of the North American Warblers than occurred to us; we therefore see no reason to doubt that this species, whose proper name appears to be *Dendrœca superciliosa*, Baird, may be found in either St. Thomas or St. Croix*.

"Le pigeon cocotzin, ou petite tourterelle,—*columba passerina*, Gm., 787," is evidently the *Chamæpelia trochila* (No. 28) of this paper, which was only separated by Prince C. L. Bonaparte in 1854 from the United States' species with which it had been previously confounded.

The next statement of M. Ledru is one to which we can scarcely give unqualified assent, even if we felt sure we understood his meaning. He includes in his list, but without naming them, "Cinq colibris et deux oiseaux-mouches d'une autre espèce (le mâle et la femelle), dont les couleurs sont moins foncées." Now there is certainly found in St. Thomas, besides the two Humming-birds *Eulampis chlorolæmus* and *Orthorhynchus exilis* (Nos. 8 and 9) of this paper, which also occur in St. Croix, a third species †, of which we have, thanks to the exertions of Herr. Riise, a good series of specimens; and these apparently differ only in size from examples of *Lampornis*

---

* It occurs in Jamaica, from which islands we possess specimens.—Ed.

† "On May 25th, 1857, I saw in a garden in the town (Charlotte-Amalie) of St. Thomas, a largeish Humming-bird, which was nearly white beneath, and was therefore probably either a female or young male of this species."—A. N.

aurulentus (Vieill.) from St. Domingo and Porto Rico, with which Mr. Gould has allowed us to compare them. But we are far from thinking that the number of species of *Trochilidæ* found in St. Thomas is so great as would appear from what M. Ledru says, even according to the most moderate interpretation of his words; and we venture to suggest that it is swollen from his having taken as specific distinctions the different states of plumage dependent upon age, sex, and perhaps season, assumed by the Humming-birds which we know to exist there. It may be worth remarking that there is a dealer in bird-skins in that island, whose endeavours to provide purchasers with what they may desire, rather than with what actually occur, are quite as unremitting as those of some of his paler-faced professional brethren in Europe; and we now have in our possession skins of *Petasophora cyanotis* and *Erythronota feliciæ* (Bourc.) said by him to have been obtained in St. Thomas, but which were, doubtless, imported from their native regions on the shores of the Spanish Main.

M. Ledru's list concludes with—

"Un todier, nommé vulgairement *perroquet de terre*," of which we can only say that we know nothing.

Mr. John P. Knox, in the little work we before quoted from, devotes a chapter to the Natural History of St. Thomas, in which he gives a slight sketch of its Ornithology (Hist. Acc. St. Thos., p. 220), the greater part being copied from Ledru's work. He begins with a quaint account of the "Ani or Black Witch," *Crotophaga ani* (No. 22), and goes on to tell us that, besides the "Parson Sparrow," *Phonipara bicolor* (No. 21), "there is also another sparrow; but its name is unknown:" a species on which we can throw no light. He adds to the information supplied by Ledru respecting "the Yellow-neck (Matacella [*sic*] pensilis)," that "it is destructive to grapes," and speaks of "the Thrush, one or two species," including therein *Cichlherminia fuscata* (No. 10), as we gather from the context. He then states (p. 221) that "a species of parrot and a little parroquet (Psittacus tui) are found quite abundant near Havensigt." This latter is doubtless the *Conurus xantholæmus* just mentioned; but we are at present ignorant of the former, though we believe there is such a species to be found, and it may possibly turn out to be the Porto-Rican *Chrysotis vittata* (Bodd.). Mr. Knox is aware that "two species of Humming-birds visit the gardens," and truly remarks that the "Ground Dove," *Chamæpelia trochila* (No. 28), is plentiful. He also asserts that "the Green Pigeon (Columba Sancti Thomas [*sic*]), and several other varieties from Porto Rico, are often found," and that "Two species of hawk, the one much more numerous than the other, are frequently seen," adding that "they prey principally upon lizards," which is certainly true as far as regards the common one, *Tinnunculus sparverius* (No. 3), as we have observed. The statement that "The quail is very rare," we are disposed to question, but not so that which follows: "A single species, the owl, equally rare." At present, we are not aware what this last-mentioned bird may be, but we have hopes that Herr Riise will enable us to determine; it is even very possible that more than one species may occur *. Mr. Knox concludes his sketch as follows:—"The tropical sea birds, especially the pelican and various species of gulls, visit the coast and harbour. A small sandpiper, ducks, plover, king-fisher, and green heron (Ardea viridus [*sic*]), are occasionally seen." This last-mentioned bird is of course *Butorides virescens* (No. 46).

We before mentioned that we had good reason to believe that some kind of Woodpecker was occasionally found in St. Croix; but we were unable to give any indication whereby the species, or even the genus, could be ascertained. Apotheker Riise has very recently transmitted to us a specimen of a Woodpecker obtained by a collector employed by him, in Bieque or Crab Island near Porto Rico, and pronounced by Mr. Sclater to be the *Picus portoricensis* of Daudin (Ann. du Mus. d'Hist. Nat. ii. p. 285), first discovered by Maugé (Ledru, Voyage, vol. ii. p. 258), which belongs to that peculiarly American genus, *Melanerpes* of Swainson. *Melanerpes portoricensis* may therefore very likely be the species that is found in St. Croix. Mr. Riise at the same time was so good as to send us from the same locality an example of *Saurothera vieillotii* *, Bp.; and in thus acknowledging his kindness, we cannot but express our hope that he will continue to investigate the zoology of the neighbouring islands, and our wish that as great success may attend his ornithological as has already crowned his conchological labours.

---

* "Mr. Cassin of Philadelphia informed me, in September 1857, that the Museum of the Academy of Natural Sciences at that place contained a specimen of *Scops portoricensis* from St. Thomas; but it escaped my memory to look for it in that magnificent collection."—A. N.

Mr. Hewitson, whose fidelity as an oological draughtsman needs no commendation from us, and who has already evinced the interest he has taken in the success of this magazine, having kindly consented to delineate some of the eggs of the Birds of St. Croix obtained by us, we here subjoin a reference to the specimens figured in the accompanying plate, and we feel sure that all the readers of 'The Ibis' will join with us in congratulating him on the result he has achieved, when for the first, and we trust not the last time, extending his labours to exotic oology. For our own part, we can safely say that we were careful to send him, for the purpose of illustration, only eggs that had been rigidly identified.

EXPLANATION OF PLATE XII.

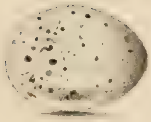
Fig. 1. Egg of *Dendrœca æstiva* (No. 15), p. 143.
„ 2. „ „ *Phonipara bicolor* (No. 21), p. 147.
„ 3. „ „ *Certhiola flaveola* (No. 7), p. 67.
„ 4. „ „ *Tyrannus dominicensis* (No. 20), p. 146.
„ 5. „ „ *Crotophaga ani* (No. 22), p. 148.
„ 6. „ „ *Butorides virescens* (No. 46), p. 261.
„ 7. „ „ *Tinnunculus sparverius* (No. 3), p. 63.
„ 8. „ „ *Cichlherminia fuscata* (No. 10), p. 141.

And now, in conclusion, we must record the very great obligations we are under to the numerous friends, both at home and abroad, who have in one way or another assisted us in these "Observations." The names of several have already been mentioned as occasion offered; but there are many others—and among them some to whom we owe most of all—whose kind assiduity in furthering our objects deserves, and would obtain from us, a like acknowledgment, were we sure that that way of showing our gratitude would be the one most agreeable to them

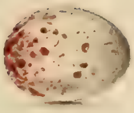
---

* Also a species peculiar to Porto Rico, represented in Jamaica by *S. vetula*, in S. Domingo by *S. dominicensis*, and in Cuba by *S. merlini*.—Ed.

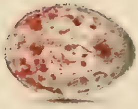
1



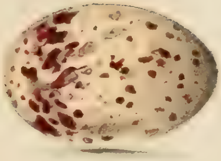
2



3



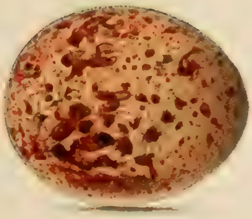
4



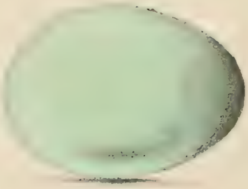
5

6

7



8



[illegible] del et lith

Printed by Hullmandel & Walton

as private persons. But there is one gentleman, with whom, from his position as Editor of 'The Ibis,' this excuse would not be valid; and therefore in exceptionally particularizing Mr. P. L. Sclater as one of those to whom whatever merit there may be in this paper is largely due, we offer our best thanks equally to our unnamed friends, especially those resident in that island for whose prosperity we most fervently wish.

XXXVI.—*On the occurrence of White's Thrush* (Oreocincla aurea) *near Stratford-on-Avon, with remarks on the genera* Oreocincla, Turdus, *and* Merula. By Robert F. Tomes.

The opportunity of examining a recently-killed specimen of the *Turdus aureus* of M. Hollandre (*T. Whitii* of Yarrell's 'British Birds'), occurs so rarely, that on the receipt of a recently-shot specimen, I thought it desirable to make an examination of it at once, before it had undergone mutilation of any of its parts in the process of preservation. Afterwards I examined with care the digestive organs, and the form and proportion of its sternum and other bones. The record of these peculiarities, with the addition of some remarks which I am able to give relative to its habits, will, I believe, render the following description more complete than any one which has yet appeared. When examining the osteology, I had occasion to make a comparative use of the skeleton of some other of our British Thrushes, and shall take the present opportunity of adding a few comments on the value of some of the divisions into which the genus *Turdus* has been divided.

I may commence by stating that the village of Welford, five miles west of Stratford-on-Avon, where the specimen was obtained, is situated in a bend of the Avon, and that the soil is a rich alluvium. Its position is highly favourable for the growth of timber and fruit trees; and it is well shrouded in orchards and small enclosures, fringed with their hedge-rows and ivied elms, affording a favourite haunt for many of the smaller birds, with a good supply of cherries and other fruits in the summer months, and of berries through the autumn and winter seasons. From a cherry orchard, a few miles down stream, I obtained, a few years since, a specimen of the Rose-coloured Pastor; and Starlings and Thrushes abound. Of insect-feeders there is an equally good supply; and I have had more than one opportunity of inspecting the nesting of the lesser Spotted Woodpecker.

In a small grass inclosure immediately adjoining the village, and thickly surrounded by elms, a friend of mine observed a bird rise from a dry leafy ditch, which at the first glance was mistaken for a Woodcock, but soon recognized as one of the Thrush kind. This happened on the 6th of January; and on hearing the account, I stimulated further search, but without effect until the 23rd of that month, when the bird was again flushed from the same inclosure, and, as before, from the bottom of a dry ditch amongst dead leaves. Again on the 26th it rose from the same ditch, and within a few yards of the same spot. On each occasion it was busied in turning over the dead leaves, from beneath which it appears to have taken its food. Although Blackbirds, Thrushes, and Missel-thrushes were abundant and seen at the same time feeding on the ivy and hawthorn berries, the present bird was always observed to resort only to the trees or hedges when disturbed, and then merely as a place of rest, remaining for some time perched in an upright position in one spot, without noticing the berries or the species feeding on them. Its flight when roused from its feeding was very undulating, like that of the Green Woodpecker, and low, often settling on the ground, and only making choice of a tree when it happened to pass under one, into which it rose almost vertically. As far as its habits could be ascertained from these short opportunities of observation, it would appear to be almost entirely a ground feeder. Mr. Blyth says of the allied Indian species, *Oreocincla dauma,* that it is generally met with amongst bamboos, in which situation the ground would very likely be the attraction, rather than the canes.

I have been thus particular in the description of the locality in which the bird appeared, on account of the interval which occurred between its first and second appearance; for it must be supposed that it was a suitable one, or it would not have again returned to it after an absence of more than a fortnight.

An examination of the specimen when obtained gave the following results.

The tail-feathers are *fourteen* in number; the two central ones the shortest, the next pair of nearly equal length with the outer pair, and the remaining ones, viz. four on each side, nearly equal in length and the longest. The outer one has its root dusky, more extended on the inner than on the outer web: middle part greyish, tinged with yellow; the tip white, less distinct on the outer than on the inner web. Second feather similar but darker, and less grey, with the dusky part almost black, and reaching to two-thirds of its length. Third one with the dark part extended almost to the white tip, leaving only a small space of yellow-brown on the outer web, but having some of that colour at the root on that web. Fourth with the same patch of yellowish at the base, but reaching for more than half its length; whilst that which was reduced to a small space on the third near its tip, is in this one quite lost. Fifth, similar to the fourth, but the yellow-brown extended to fully three-fourths of its length. Six and seventh wholly yellow-brown, faintly barred on both webs with darker brown. All the white tips decreasing in size from the outer to the inner feathers, on which they are almost obsolete *.

First quill short and rudimentary. Of those which really compose the end of the wing, the first and fourth are nearly equal, and the second and third also nearly equal in length and the longest in the wing—longer by four or five lines than the first and fourth. The wing, in its structure, does not differ much from that of the Fieldfare, Song-thrush, Ring-ousel, or Missel-thrush, the relative length of the quills being pretty similar. Closed wings with their ends extending to within two inches of the end of the tail.

Irides very dark brown, almost black. Upper mandible uniform dark brown; lower one similar, but yellowish towards and at the base. Legs and feet pale yellowish-brown; claws the same, but paler. Weight $93\frac{2}{3}$ drachms.

---

* The late Prince C. L. Bonaparte, in his monograph of the genus *Oreocincla*, distinguishes this species from all the others thus:—"Cauda rectricibus 14, *variegata*."

	"	‴
Length from point of bill to end of tail	12	2
,, of tail	4	5
,, of bill, along the ridge	0	10
,, of bill, gape line	1	3
,, of wing from carpal joint, following its anterior curve	7	3
,, of tarsus	1	5
,, of middle toe and claw	1	4
,, of hind toe and claw	1	2
Expanse of wings	20	6

The digestive organs differ somewhat from those of such of our British Thrushes as I have been able to make comparison with, in being strictly adapted to an insectivorous diet. The tongue, tapering to a smooth cleft point, is somewhat horny, and rather distinctly serrated on its upper surface near the root. Œsophagus of moderate length, without crop or dilatation, but rather wide; proventriculus moderately well developed, much more so than in the Blackbird, relatively much as in the Song-thrush. Stomach membranous, indicative of a more insectivorous regimen than the Blackbird; of small size, scarcely exceeding in this particular that of the much smaller Song-thrush; irregularly oblong, its greatest diameter being at right angles to a line between the two orifices. Intestine rather short in relation to the size of the bird, only exceeding that of the Blackbird by three or four inches, whilst in the bulk of the two birds there is manifestly a much greater difference than this. It is of medium size, and decreases evenly to the cæca. The latter are much more distinct than in the Blackbird, but somewhat like those of the Song-thrush. Cloaca large.

The following are the dimensions of these parts:—

	"	‴
Length of the œsophagus	4	3
Breadth of do.	0	4
Length of the proventriculus	0	8
,, between the two orifices of the stomach	0	4
,, of the stomach measured at right angles to the last dimension	0	10
,, of the intestine	21	0

	″	‴
Greatest breadth of the intestine	0	3
Length of the cæca	0	4
„ of the cloaca	1	4
Breadth of do.	0	6

For the synonymy of this species, I refer the reader to the late Prince C. L. Bonaparte's Monograph of the genus *Oreocincla* in the 'Revue et Magasin de Zoologie,' No. 5, 1857. The presence of fourteen feathers in the tail, determines the species.

Without having gone into the subject with sufficient care to give a decided opinion, it has always appeared to me that the genera into which many families of birds have been divided are based upon a series of very minute differences of a purely external nature, without sufficient care having been first exercised in endeavouring to ascertain how far they may be referable only to the peculiar habits of the species. Assuming, by way of argument, that such has in some instances been the case, it must be pretty clear that the value of such divisions will depend almost entirely on the number of species contained in each. For instance, were we to take any genus of birds as given by the older writers, we should find it to consist of an assemblage having considerable diversity in the details of external parts; but perhaps the difference might be so slight that we should hesitate before dividing it into a series of new genera. A considerable number of the species would possibly be possessed of absolutely the same characters, differing only in such as we should not hesitate to name as purely specific. From the others these might differ in an inconsiderable but constant manner; but their separation would in this case be a very proper one: whether of generic or subgeneric rank would not affect the question. Clearly the differences, however minute, could not be regarded as specific; and in this manner a character, of apparently small value in itself, might become highly serviceable as a means of classification. Indeed its constancy might outweigh a peculiarity of more marked aspect when of limited occurrence, since it might be difficult in this case to determine what were specific, and what generic characters. No such difficulty could occur in the former of these supposed instances.

Having proceeded with this method as far as practicable, the remainder would have to be considered. Amongst such remainder will be found species differing too much from each other to be with consistency grouped together, but which nevertheless are not strongly marked enough to induce us to make a new genus for each one. But we are compelled either to do this, or place them all together—the constancy of the characters not being here determinable.

Such has been pretty much the case amongst the limited number of *Turdidæ* which I have had for comparison. I have now before me the following species—*Turdus musicus, T. iliacus, T. obscurus,* Gm., *T. pilaris, T. viscivorus, T. torquatus, T. cyaneus, T. merula, T. migratorius, T. mustelinus,* and a few other species, besides *Oreocincla dauma, O. aurea,* and *O. lunulata.* From these I select the first three, their general similarity being so great, even to the distribution of the colours and the markings of the feathers, that the most determined genus-maker would scarcely attempt to sever them. But on comparing the Song-thrush and Redwing, I find, besides the discrepancy in size, a greater relative length of wing in the latter than in the former. I shall proceed to analyse the value of this difference, as a means of arrangement of the two species.

The wing itself is structurally similar in both of them ; that is, it has the same relative length of those feathers which constitute the end of the wing, but they are somewhat longer in relation to the secondaries and tertiaries in the Redwings. This difference in the length of the wing, indicative of greater or less powers of flight, is explained by the migratory and resident habits of the species; and on examining those internal parts which are instrumental in flight, we find that, although the migratory species is the smaller of the two, and has a sternum proportional to its size, the keel is fully as deep as in the larger and resident species: *relatively,* therefore, it is deeper. This is just as it should be: the longer wing necessary for the performance of specific migratory habits requires a greater development of muscle to wield it; and this is accomplished by the greater depth of the keel. This peculiarity is a purely *adaptive* one; there is no indication of an *essential* character in this, the only recordable difference in the osteology of these species*.

A comparison may now be made between the Blackbird and Fieldfare, two species of somewhat similar size, one resident and the other migratory, as before, and, in like manner, characterized respectively by shortish and rounded wings, and by longer and more pointed ones. We feel quite prepared for results similar to those observed in the two preceding species, and are quite satisfied with finding that the sternal keel of the Blackbird is shallow as compared with that of the Fieldfare. But here the coincidence ends; these species do not any further represent the former ones: the sternum of the Fieldfare does indeed represent pretty accurately that of the Redwing; but that of the Blackbird will not satisfactorily take the place of the Song-Thrush. The sternum of the Blackbird has its hinder margin much more deeply incised on either side than that of the Fieldfare or Song-thrush, or Redwing,—the notches entering into the body of the bone for half its length, whereas in the latter species they do not divide the bone for more than one-third of its length. Again, instead of the transverse and nearly straight outline which this margin of the bone assumes in the species just referred to, we have in the Blackbird a distinctly rounded outline—the two lateral processes which are separated by the notch being a quarter of an inch shorter than the centre where the keel merges into that margin.

---

* The intimate connexion which must needs exist between the external and internal parts of the organ of flight, involves another question of consideration to the scientific naturalist. I allude to the influence of external causes. As all the feathers of a bird, including of course those used in flight, are simply a development of the cutaneous system, it follows that, if any particular conditions of existence affect that system, they must affect also the internal parts with which it is immediately connected. However, we have yet to learn in what manner the plumage of birds is affected by external causes. The clothing feathers may be liable to modification quite apart from those which serve for locomotion; and this supposition (for I only advance it as such) has its analogy in the class Mammalia. The different species of *Tupaia* have fur of precisely the same quality and texture, and even colour, as some of the Squirrels of the same region; and the similarity is, as it seems but fair to suppose, due to their existence under similar external conditions. But the claws of these animals suffer no equalizing modifications; and they also are a part of the cutaneous system. It would be highly interesting to ascertain what part of the plumage of birds answers exactly to those parts of the cutaneous system of mammals which are developed into horny appendages subservient to locomotion and other uses. The claw of a tiger has as exact a relation to the whole of the limb on which it is fixed, and acts as perfectly with it as does the hoof of a horse with the limb to which it is affixed; but the hair which clothes the limb would seem in either case not necessarily to hold any direct or immediate relationship with the type on which the limb is constructed. The legs of the Tiger and Horse would perform their functions equally well if wholly deprived of hair, or if an exchange were made of it; but if deprived of claw and hoof, or an exchange made of them, very different results would accrue. If analogy be of avail in such cases, the same ought to hold good with birds, and we should be able to separate correctly the clothing plumage from that which serves for locomotion. This might furnish an argument for those who deem that everything necessary for the study of ornithology may be found in dry skin and feathers, since the native and special use of the limb should be understood by the study of these.

On comparing the sternum of *Oreocincla aurea* with those of the foregoing species, I meet with characters which are common to several of them. The keel is deep, as in the migratory species; and its depth, as in them, is proportional to the length of wing. In accordance with this indication of its powers of flight, are the strength of all the bones therewith connected. Thus the ribs are rather broad, and have their hind processes considerably developed, well united to the rib from which they spring, and lying firmly upon the one over which they pass. The scapular and clavicular bones also are strong, and firmly set, and well marked with seams and ridges for the attachment of muscles; and the sternum itself has similar impressions. The costal process is divided from the body of the bone by a more prominent ridge than is usual in the *Turdidæ*, which first assists in forming a support for the foot of the coracoid bone, and then, extending in a backward direction, divides where it meets the the notch in the hinder margin of the sternum, and, proceeding backward on each side of that notch, assists at the same time in giving strength to that part of the bone, and supplying a suitable surface for the attachment of the muscles used in flight.

Notwithstanding the strength of these parts of the skeleton, the hinder part of the sternum itself exhibits a low degree of development. As in the Blackbird, that margin is rounded, and even more so than in that species. The lateral notches enter into the bone for half its length, and are proportionally broad; while the side processes are so short that their outer angle reaches scarcely further in a forward direction than two-thirds of the entire length of the sternum, taken along the line of the keel.

Wishing, if possible, to ascertain more exactly the importance of this character, and knowing that the adult plumage of *Oreocincla* represents the immature plumage of some of the more typical Thrushes, I obtained for examination some of the latter when in that stage of plumage which most nearly resembles that of the *Oreocincla*. The results were satisfactory. I select as an example the Missel-thrush. In a mature bird the hinder margin of the sternum is transverse and but slightly rounded,—the notches on either side being of moderate size, and almost closed posteriorly. In a young bird, full-grown but retaining the spotted nesting-plumage, the hinder margin of the sternum is more rounded, and its lateral incisions are deep and open—in a word, very much like that part of the sternum of the *Oreocincla aurea*. The same differences in the sternum at different ages obtain also in the Ring-ousel, probably also in many other species.

Through the great kindness of Mr. Alfred Newton I am enabled to add a few notes on the sternum of some other *Turdidæ*:—

1. *Turdus migratorius*.—Form typical, sternum indicating a state of development similar to those of the Fieldfare and Ring-ousel.

2. *T. fuscatus*, Vieill. West Indies.—Two sterna of this species, sent by Mr. Newton, differ somewhat in the size and openness of the notch in the hinder part, but in both they are of moderate size. In one they are very like those in the sternum of the adult Missel-thrush; but in the other they are so much closed posteriorly as to present the appearance of two oval foramina. In general outline, too, the sternum of this species and the Missel-thrush bear considerable resemblance to each other.

3. *Monticola cyanea*.—The first thing noticeable in the sternum of this species is its small size compared with that of the Redwing

(whereas the wings of the two species are very nearly equal), the shallowness of its keel, and its greater solidity. Its hinder margin is not more rounded than that of the Song-thrush or Redwing, and it is much less broken by incisions, these being of comparatively small size, and almost closed posteriorly. It would not be difficult to regard this species as one of a high degree of development amongst the *Turdidæ*, but adapted to some special mode of life.

Of the sternum of two other species kindly forwarded by Mr. Newton, I refrain to speak. One of them, *Ixos obscurus*, is but remotely related to the genus *Turdus*; and the other, *Ixos xanthopygius*, I should also suppose, from the inspection of the sternum, to be of equally distant relationship. I have not examined a specimen of the latter species.

The modification in the form of the sternum of the species mentioned in this paper may be formally expressed in the following manner:—

* *Outward form typical.*

1. Sternum with the hinder margin nearly straight; lateral incisions nearly or quite closed posteriorly.

Ex. *Turdus viscivorus, T. fuscatus, Monticola cyanea.*

2. Sternum with the hinder margin moderately straight; lateral notches rather deeper, not closed posteriorly.

A. Organs of flight adapted for migratory habits.

Ex. *Turdus iliacus, T. pilaris, T. torquatus, T. migratorius, T. obscurus.*

B. Organs of flight not adapted for migration.

Ex. *Turdus musicus.*

** *Outward form subtypical.*

1. Sternum with the hinder margin rounded, deeply notched, and exhibiting *a degree of development in the adult similar to that of the immature of the foregoing* and more typical group.

A. Organs of flight adapted for migratory habits.

Ex. *Oreocincla aurea.*

B. Organs of flight not adapted for migration.

Ex. *Turdus merula.*

It remains for further and more extended examination to show us with what external characters these various modifications of the sternum accord, and with what degree of constancy. The foregoing investigations, however, lead us to the conclusion that any considerable difference in external characters is accompanied with some modification or other in the form of the sternum.

And now I can readily fancy that, if any of the readers of this Magazine have taken the trouble to follow me to this point, they will be rather likely to exclaim, "Why all this about a Blackbird and a Thrush? for it is of them that chief mention is made, and it could scarcely be worth while to take up so much space about such very common species: surely we did not want to hear so much about them." Let me assure them that they are mistaken. If they are genuine zoologists they *do* want to hear all this and a great deal more, but in a more extended and better digested form than I have been able to give it, and with a more general knowledge of the method of working it out than I possess.

In order to arrive at a definite and truthful conclusion in a question like the one I have here propounded, it is absolutely necessary that we go through a great amount of laborious and minute comparison of part with part of many species before we can safely generalize; and the commonest species will furnish materials of value quite equal to what we can obtain of the rarer ones, with this striking advantage—that we can readily multiply our opportunities of investigation, and thereby prune away errors that are sure to find their way into restricted labours, even of the most watchful. And, besides, the commoner the species, the easier it is for every one to corroborate or refute what has been advanced.

XXXVII.—*List of Birds of Prey received from Beyrout.*

By John Henry Gurney, M.P., F.Z.S.

The following is a list of Birds of prey, of which specimens collected in Syria have recently been sent to me by Mr. Louis Lauretta of Beyrout. I may, perhaps, be allowed to add that

Mr. Lauretta is happy to undertake commissions for the collection of Syrian specimens of zoology and geology, and also of objects of antiquarian interest, and that the ornithological commissions with which I have entrusted him have been executed to my satisfaction.

The Raptorial species which I have received from Beyrout through Mr. Lauretta are—

1. GYPS FULVUS (Gmel.). (Griffon Vulture.)

2. NEOPHRON PERCNOPTERUS (Linn.). (Egyptian Vulture.)

3. AQUILA NÆVIA (Gmel.). (Spotted Eagle.)

The specimen sent belongs to the smaller race, the true *Aquila nævia,* as distinguished from the larger race which inhabits the vicinity of the Caspian Sea as well as southern parts of Eastern Europe and Western Asia, and to which Pallas gave the specific name of *clanga.*

4. AQUILA PENNATA (Gmel.). (Booted Eagle.)

5. CIRCAËTUS GALLICUS (Gmel.). (European Harrier-Eagle.)

6. BUTEO TACHARDUS (Daud.). (Tachard Buzzard.)

7. PERNIS APIVORUS (Linn.). (European Honey-Pern.)

8. TINNUNCULUS ALAUDARIUS (Gmel.). (British Kestrel.)

9. HYPOTRIORCHIS SUBBUTEO (Linn.). (British Hobly.)

10. FALCO PEREGRINUS (Linn.). (Peregrine Falcon.)

11. ACCIPITER SPHENURUS* (Rüpp.). (Rüppell's Sparrowhawk.)

This is the first instance which has come under my notice, of the occurrence of this species beyond the limits of the African continent. The collection contained five examples, in different states of plumage.

12. CIRCUS SWAINSONI (Smith). (Swainson's Harrier.)

---

* See Rüppell, Syst. Ueb. Vög. N.-O. Afr., where this bird is figured, pl. 2. Mr. Gurney has sent us a series of *Accipiter badius* of India, and *A. brachydactylus* of West Africa, for comparison with the present species. These three birds and *A. polyzonoïdes,* Smith, of South Africa, are all certainly very closely allied; but we are not yet prepared to say that they may not be distinguished.—ED.

13. Circus cineraceus (Mont.). (Montague's Harrier.)

14. Circus æruginosus (Linn.). (Marsh Harrier.)

15. Syrnium aluco (Linn.). (Tawny Owl.)

16. Brachyotus palustris (Bp.). (Common Short-eared Owl.)

[In enumerating the authorities on the birds of Syria and Palestine, in reference to Mr. Tristram's article on the "Ornithology of Southern Palestine," in No. 1 of 'The Ibis' (*vide antea*, p. 38), we omitted to mention the name of the Marchese Orazio Antinori, who has made some interesting discoveries in the ornithology of those countries—*Cypselus galilæensis* and *Picus cruentalus,* described in 'Naumannia' (v. p. 307, and vi. p. 411). Mr. Gurney's present contribution towards our knowledge of the birds of this country gives us an opportunity of supplying this omission.—Ed.]

XXXVIII.—*Descriptions of Six New Species of Birds.*

By Daniel G. Elliot, of New York.

(Plate XIII.)

1. Thalassidroma gracilis, Elliot, sp. nov.

Nigro-fuliginosa, fascia alari pallidiore; uropygio abdomineque medio albis; rectricibus nigerrimis; cauda emarginata: rostro et tarsis gracillimis nigris.

Sp. Ch. Plumage sooty black. Quill feathers brown. Secondary coverts margined with light brown. Rump, upper tail-coverts, and middle of abdomen white. Tail black, the two outer feathers with a white mark on the lower half of the inner web, growing narrower as it ascends; lower half of the shafts white, the rest black. Under tail-coverts white, margined with black. Breast sooty. Bill black. Tarsi and feet very long and slender, black. Length 5·90; wing 5·22; tail 2·40; bill 0·40; tarsus 1·20.

Hab. West Coast of America.

Remarks. This species is very abundant on the coast of Chili, only coming to the mainland in the breeding-season. During that period, for a great part of the day and night they retire to the clefts of the rocks, taking flight only in the early morning. The female lays two eggs, pure white, of an oblong form, and she sits upon them alternately with the male. The young, when they are hatched, are covered with a sooty-coloured down, which in a few days changes to the plumage of the adult. There is no difference between the sexes in the colour of their plumage. It is not unusual to meet these birds in flocks of from ten to fifteen individuals, scattered over a small space at the distance of from thirty to forty miles from the shore. When flying, it frequently drops its feet upon the water, giving to it the appearance of walking. Its food consists principally of the small Mollusca which float upon the surface. Its note is shrill, and is always heard in the morning and evening when it is about to take wing. When it wishes to rise from the ground, it is obliged to run for a short distance with extended wings. It sits upon the water only when it has found some food too heavy for it to raise, when it settles beside it. The specimen described was taken in the month of May, and is a male.

I have given it the name of "*gracilis*," on account of its being the most slender in form of all the species yet known. The general plumage is browner and more lustrous than in *T. wilsoni*, to which it is most nearly allied; and the middle of the abdomen is white, whereas in *T. wilsoni* the entire under surface is sooty brown. The nostril is high and very open; in the latter species it is rather depressed and closed. The tail is less emarginated in this species; and the bases of the two external rectrices only are white, while in *T. wilsoni* they are all white at the base. The bill, tarsi, and feet are much more slender in the present species.

2. SYCOBIUS CASSINI, D. G. Elliot.

Capite supra et vitta latissima in pectore intense coccineis: mento, jugulo, alis, cauda et corpore toto nigris: rostro nigro; pedibus brunneis.

Jet-black; upper part and side of head, nape of neck, throat and breast deep crimson; bill black; legs and feet brown. Length 5·3; wing 3·58; tail 2·45; bill ·8; tarsus ·8.

This species comes from the forests of Gabon; and I take great pleasure in naming it after our distinguished ornithologist Mr. John Cassin of Philadelphia, so well known for his various and able publications in this branch of science. All that is known of this bird is that, like the other species of the genus, it frequents the edges of the forests in small flocks, feeding chiefly upon seeds. Its nest is suspended from the branch of a lofty tree, is roughly made, and is entered by an opening in the side. The species does not appear to be migratory. The specimen from which the description was taken was received by M. Verreaux from Gabon, in May 1859.

3. Sycobius nuchalis, D. G. Elliot.

Niger, occipite et nucha coccineis: rostro et pedibus nigro-plumbeis.

Jet-black; occiput and nape of neck bright crimson; bill and tarsus bluish-black. Length 6·3; wing 3·9; tail 2·88; tarsus 1·0; bill along gape 1·0.

All that I have said regarding the *S. cassini* will equally apply to the present species, with the exception that I am ignorant of the sex of the specimen, but should judge it to be a female, as the male in all probability would have red, either upon the throat or breast. It would seem also to be one of the largest and strongest of all the species described. It was received from the same locality as *S. cassini* by M. Verreaux.

4. Myiagra rufiventris, D. G. Elliot*.

Capite colloque intense viridi-plumbeis; corpore supra pallidiore: pectore cinnamomeo-rufo; abdomine tectricibusque caudæ inferioribus pallidioribus: alis caudaque fuscis; rostro et pedibus plumbeis.

Head, throat, nape of neck, and upper part of breast deep lead-colour, with greenish reflexions; back lighter; lower part of breast chestnut, growing lighter towards the abdomen; upper side of wings and tail dark brown, beneath light ash. First quill equal to sixth. Feet and bill lead-colour; under wing-coverts slate-coloured, bordered with white. Length 7·52; wing 2·8; tail 2·7; tarsus 1·82; middle toe 0·35, its claw 0·08.

Hab. Samoan or Navigators' Islands.

This specimen was received by M. Verreaux in 1858, from the above islands. It is nearest allied to the *Myiagra plumbea* of Gould's B. of Austr. ii. pl. 89, but is distinguished by its deeper colour, chiefly on the head and throat, and by having the lower surface chestnut instead of white.

---

* This bird should be compared with *Platyrhynchus albiventris*, Peale, united by Mr. Cassin to *Myiagra rubecula* (Lath.) of Australia. See U. S. Expl. Exp. 'Birds,' p. 149.—Ed.

5. MEGABYAS BICOLOR, D. G. Elliot.

Niger, nitore nonnullo æneo; uropygii plumis laxis et corpore toto subtus albis: rostro nigro: tarsis et pedibus rubris.

Sp. Ch. Head, back, wings and their under coverts, and tail black, with greenish reflexions; rump and entire under parts pure white; bill black; tarsi and feet reddish. Of the same size as female.

Remarks. My attention was drawn to this species by M. Jules Verreaux, who has described the female under the name of *Megabyas flammulatus* (Revue Zool. 1855, p. 348). This is the first time, to my knowledge, that the male has been received; and I propose to give to the species the name of *Megabyas bicolor,* on account of the great difference, in the plumage, between the sexes.

This specimen also was received from Gabon by M. Verreaux.

6. PLATYPSARIS AFFINIS*, D. G. Elliot. (Plate XIII.)

Supra cinereo-plumbea: semicristata: dorsi et scapularium macula basali albis: subtus cinereo-albescens, collo antico roseo; mento paulum albescente; juguli parte laterali cinerea: remige secundo brevi, nigricante, margine externo et parte interna et macula parva ad ipsam basin albis: rostro et pedibus nigris: cauda emarginata. Long. tota 6·0; alæ 3·45; caudæ 2·9.

Hab. in Mexico.

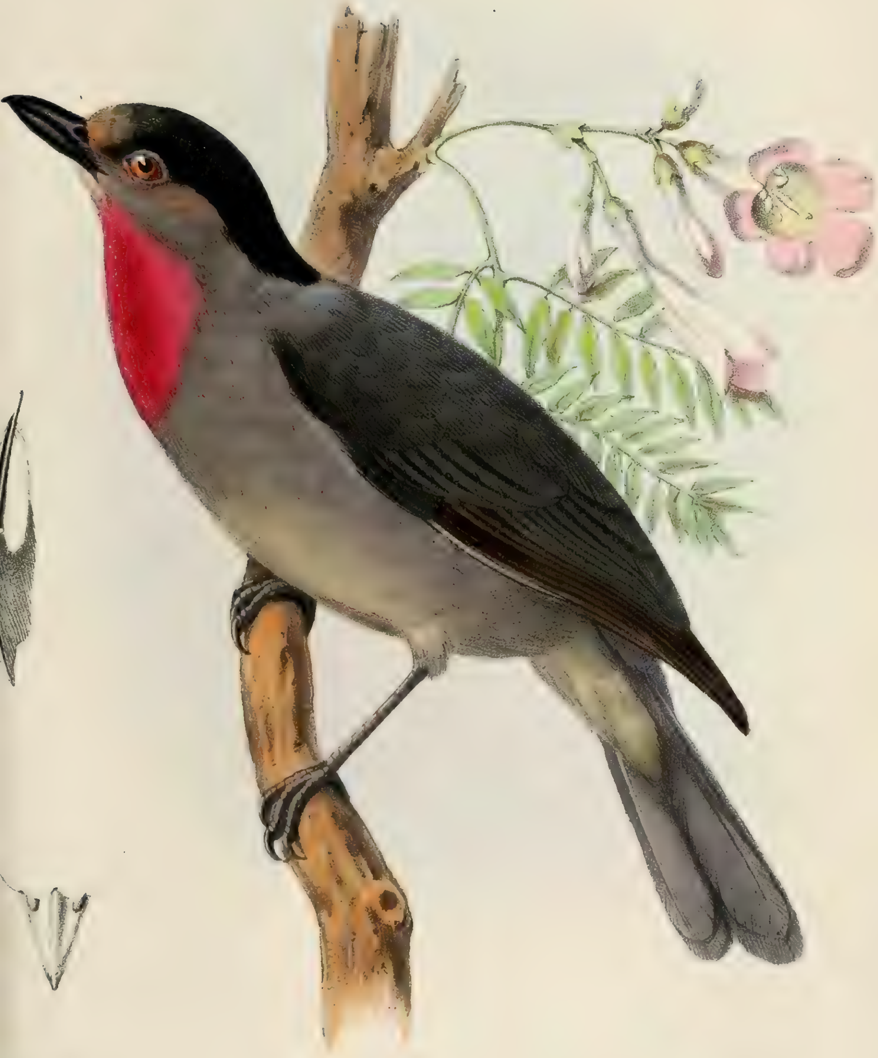
This species of *Platypsaris,* to which I have given the name of *affinis,* is closely allied to *Platypsaris aglaiæ* (La Fresnaye), from which, however, it can easily be distinguished by its much smaller bill, and the general lighter colour of its plumage, as well as the distinct black head, whereas there is little or no difference in the adult male of *P. aglaiæ,* between the colour of the head and back.

The rose-colour of the throat is brighter in *P. affinis,* and

---

* A series of skins from Vera Cruz recently examined all belonged to this bird. On the other hand, a specimen from Oaxaca seems to be what Mr. Elliot considers as true *P. aglaiæ.* I am not yet convinced of their specific distinctness.—(P. L. S.)

Ibis 1859 Pl. XII.



Oudart del.

Imp. Lemercier, Paris.

Platypsaris affinis . D. G. Elliot

does not extend so far down upon the breast. The under wing-coverts are rufous brown, whereas those of *P. aglaiæ* are black and white.

The black of the head and neck is separated from the plumbeous of the back by a narrow line of ash-colour; and the ears are tinged with purple. Beneath, this species is much lighter than *P. aglaiæ*, being ashy white.

The tail is brown, edged with ash—but emarginate, whilst that of *P. aglaiæ* is round.

The specimen from which the description is taken is an adult male, received by M. Verreaux from Mexico, in 1858. The female has not yet, to my knowledge, been met with. I give below a measurement of the two species.

P. aglaiæ.		*P. affinis.*	
Length	7·00	Length	6·00
Wing	3·60	Wing	3·45
Tail	3·30	Tail	2·90
Tarsus	1·00	Tarsus	·82
Middle toe	·60	Middle toe	·55
Bill above	·68	Bill above	·50
„ along gape	·95	„ along gape	·65
Width of bill at nostrils	·40	Width of bill at nostrils	·30

XXXIX.—*On the Habits of the Black-winged Stilt, as observed on its occurrence in Sussex.* By A. E. Knox.

On the 17th of May last, a specimen of the Black-winged Stilt (*Himantopus melanopterus*) was killed on the banks of a small pond about a mile from this place, in a partially enclosed district surrounded by unreclaimed moorland, near the junction of Midhurst and Bepton commons.

This is the first time that the Stilt has ever been obtained or seen in the county of Sussex; and it would appear to be nearly equally scarce in all parts of the British Islands.

Opportunities for observing the habits and manners of these rare and accidental visitors so seldom occur, that I shall make no apology for the length of this communication. Apart, however, from the rarity of the species, there are circumstances attending the occurrence of the individual in question which appear to me to be especially worthy of notice, as tending to throw some light on its remarkable, and, to the ordinary observer, grotesque external conformation.

The pond to which I have alluded is very shallow—the depth of the water, even at fifteen paces from the shore, scarcely exceeding a foot. About that distance from the banks, the surface was covered with numerous blossoms of the Water Crowfoot (*Ranunculus aquatilis*). On examining these next day, and frequently afterwards during last month, I found them inhabited by numerous minute Dipterous and Coleopterous insects (small flies, midges, and beetles), comfortably nestled at the bottom of the flowers among the stamens, from which, indeed, none but the most delicate and attenuated instrument would be capable of extracting them without at the same time injuring the blossoms. Now, not one of our wading or swimming birds, except the Stilt, possesses a beak perfectly adapted to this purpose. But the Stilt has a bill almost as finely pointed as that of a Humming-bird; and those which make the nearest approach to it, as some among the smaller *Tringæ,* want the accompaniment of length of limb—that unusual development of *tibia* and *tarsus*—to enable them to wade to a sufficient distance from the shore.

The bird was first noticed by an intelligent lad, the son of a small farmer of the name of Pearson, while driving the cows home to be milked in the evening. It was then standing nearly up to its belly in the water, and rapidly extracting the insects from the flowers, or, as the boy supposed, picking the petals themselves. It allowed him to approach within twenty yards before it took flight, when it extended its long red legs behind it, after the manner of a heron, and, alighting again on the opposite bank, immediately recommenced wading out to the water-plants. Young Pearson then hastened home to his father, who lives at a short distance from the pond; and the latter, hurrying to the spot with a loaded gun, found the bird employed as before among the flowers of the Water Crowfoot. But it was now exceedingly shy and wary of the gun, flying from one side of the pond to the other, before Pearson could get within shot (but never uttering any cry or sound), so that at last he found it necessary to resort to stratagem, and to endeavour to "stalk" the bird. This a newly made ditch and bank, one extremity of which approached within a few yards of the water's edge, enabled him to do successfully. On raising his head above the bank, just before he fired, he perceived the Stilt within twenty yards of him, knee-deep in the water, in the midst of a cloud of gnats and midges, at which he was snapping right and left, much after the manner (to use Pearson's own simile) of a dog when teased by the flies in hot weather.

The bird, fortunately but little injured by the shot, was brought to me on the following morning, and on subsequent dissection proved to be a female. The ovarium contained several eggs, the largest of which was about the size of a pea. The stomach was crammed with beetles and gnats in a half-digested state, the *elytra* of the former showing that different species had been captured. After the first pleasurable sensations on possessing and examining in the flesh a perfect specimen of so rare a visitor had passed away, I could not help being struck with the remarkable tenuity of the tips of the mandibles, as well as by the more obvious peculiarity from which the bird has derived its name (the extraordinary length of its legs); but after listening to the simple story of George Pearson and his son, I perceived that the mystery was solved, and that here was a new instance of the wonderful adaptation of means to an end, of structure to habits, such interesting examples of which are continually presenting themselves to the observant naturalist.

XL.—*Note on the Breeding and Mode of Capture of the Short-tailed Petrel, or Mutton Bird* (Puffinus obscurus)*, in the islands in Bass's Straits.* From the Journal of Robert Elwes.

The little settlement on Vansittart's or Gun-carriage Island, one of the Flinders's Islands group in Bass's Straits, lies in a cove, on one side sandy, but on the other closed in by huge granite rocks, behind which the sealers have built their houses, and which serve also to shelter their boats from the sea. Tucker's (the chief settler's) house was comfortable enough. His wife was a Hindoo woman from Calcutta, active and industrious, who kept it in good order. The other men had native wives or 'gins' as they called them, from Australia and Van Diemen's Land.

Their original occupation was sealing; for these islands formerly swarmed with Seals. In the course of time these animals became exterminated; and now their principal livelihood is derived from the Mutton-birds which are found here in incredible numbers.

These birds, called also Sooty or Short-tailed Petrels (*Puffinus brevicaudis*, Gould, B. Austr. vii. pl. 56), have such long wings, that, like the Albatros, the largest of their tribe, they have great difficulty in rising from the ground when settled; and it is this peculiarity that makes their capture so easy. They build in holes in the ground. The islands which they frequent are burrowed over in all directions just like a rabbit-warren. They arrive in huge flocks about the 21st of September, generally to the day, to prepare their holes and clean them out. There is tremendous fighting and quarrelling for these holes. When the birds have arrived a few days, their tracks or pathways begin to be apparent, or, as the sealers say, "they begin to show their runs;" for they go down to the sea every morning. The sealers then dig a large pit in one of the main runs with small fences on each side leading down to it like a funnel. When all is ready, some morning at day-break, when the birds come out of their holes, they are driven down these runs into the pitfall. "We rushes 'em down, Sir, and they all tumbles over one another into the hole," was the way the men expressed it. They crowd down and fall in by hundreds, crushing and smothering each other until the pit is full, when the men break down the fence at the sides and let the rest escape. They generally take 2000 or 2200 in each drive. The men then jump into the hole and set to work to pick them, pulling off the body-feathers and stuffing them into bags and throwing the carcasses out of the hole. This lasts till noon. It is hard work; and before the end of the season their nails sometimes come off from the continual plucking. It takes the feathers of 25 birds to make a pound, which sells at Launceston for twopence; but Tucker, his wife, and his pal Dick collected a ton of feathers last year. To do this they must have killed 56,000 birds; and yet they say their numbers do not seem to decrease. The birds come back to the islands again on the 23rd of November to lay. They lay but one egg, and generally on the day or the day after they arrive. The sealers collect a good many for their use; and when the young birds are nearly full-grown, they attack them again for the sake of the oil with which the old birds feed them. They thrust their hands into the hole, pull out the young bird by the head, kill it by squeezing it; and holding it up by the legs, the oil runs out of its beak. This oil is very clean and pure, burns well, and sells at Launceston at four shillings per gallon. When the young birds are full-grown they are very fat. The men then pull them out of their holes, split them, and salt them. It is rather dangerous work catching them in this way; for many venomous snakes dwell in the holes, and are sometimes seized and pulled out instead of a bird.

XLI.—*Notes on some of the Humming-birds of Ecuador figured in Mr. Gould's Monograph.* By Dr. William Jameson, of Quito, and Louis Fraser, Corr. Memb. Zool. Soc.

1. Oreotrochilus chimborazo (Gould, Mon. pt. 2).

This bird is not found below the elevation of 14,000 feet; but vegetation does not cease here, as M. Bourcier seems to say—for how then could these birds live? It is never seen perching on the extremity of the Chuquiraga (*Chuquiraga insignis*), as represented in Mr. Gould's plate, but always clinging to the sides of the flowers of that plant. It is very abundant in its locality.

2. Oreotrochilus pichincha (Gould, Mon. pt. 2).

It is impossible that any species can be more common than *O. chimborazo*; but this bird is more attainable on account of the proximity of Pichincha to Quito. Like the former, it is not found below the altitude of 14,000 feet.

3. Lesbia amaryllis (Gould, Mon. pt. 7).

This bird is only found on the Table-land.

4. Patagona gigas (Gould, Mon. pt. 9).

The American Aloe (*Agave americana*) is the only plant this bird is ever seen feeding upon.

5. Adelomyia melanogenys (Gould, Mon. pt. 9).

This species is never found in or near Quito, but only in the lower and warmer countries.

6. Eugenia imperatrix (Gould, Mon. pt. 11).

Prof. Jameson's specimens of this fine Humming-bird were obtained in the neighbourhood of Auca, on the road to Nanegal, at about 6000 or 7000 feet elevation. They were feeding on the *Alstrœmeriæ*, *Daturæ* not being found in that locality.

7. Cœligena wilsoni (Gould, Mon. pt. 11).

There must be some error when Bourcier states that he killed this species at an elevation of 10,000 feet, and in Nono, which lies at about 9000 feet. This bird belongs strictly to the warmer countries, such as Nanegal, which is only about 4000 feet in altitude.

8. Aglæactis cupreipennis (Gould, Mon. pt. 12).

The females of this species have the glittering back, but not so brilliant as in the males.

9. Heliantheá lutetiæ (Gould, Mon. pt. 13).

This bird is found in the valleys of Lloa and Pelogalli, but not nearer Quito.

XLII.—*Review of* Herr Bädeker's* *and* Dr. Brewer's† *Oological Works.*

Birds'-nesting and Egg-collecting are pursuits the practice of which has for some time ceased to be confined to truant school-boys, but, except by a limited few, the occupation of an Oologist has been, until very lately, regarded as much below the serious dignity of a scientific naturalist. Even now, there are ornithologists who smile with benignant pity at the simplicity of those followers of old Sir Thomas Brown's example who make a study of egg-shells. Not recognizing the possibility of deducing from them any ideas worthy to be entertained by sensible men, they regard the possessors of egg-cabinets simply as weak victims of an uncontrollable propensity for acquisitiveness, much indeed as Captain Lemuel Gulliver, of veracious memory, looked upon the Yahoos with their hoards of shining stones, whereof they were so "violently fond." But the number of these ornithological purists is decreasing, and at any rate there are persons enough —among whom we hope to count a majority of our readers— who think differently from them, and we will therefore waste no time in attempting to convert the remainder, or in offering any excuses for occupying these pages with a somewhat general article on Oology.

---

* *Die Eier der Europäischen Vögel* nach der Natur gemalt von Fr. W. J. Bädeker, mit einer Beschreibung des Nestbaues von Ludwig Brehm.—Leipzig und Iserlohn. [In course of publication.]

† Smithsonian Contributions to Knowledge. *North American Oology.* By Thomas M. Brewer, M.D. Part I.—*Raptores* and *Fissirostres.* Washington City: 1857. [Issued 1859.]

Both the works of which the titles stand at the head of this paper are most welcome additions to egg-literature. To that of Herr Fr. W. J. Bädeker we shall give priority of notice, since it saw the light before Dr. Brewer's. Brief allusion to its merits has already been made in a former Number of the 'Ibis' (*antea*, p. 203), and that it will be found of great utility to naturalists is not to be doubted; but it is fair to say that it has some drawbacks, among which its unnecessarily large size and the irregularity of its appearance are not inconsiderable. There are, besides, certain defects in the execution of the plates, of which we shall presently speak. With all this, however, it is to be highly commended. Four parts (*Lieferungen*) are now before us, each of which contains eight plates, comprising numerous figures, often indeed a good series, of varieties of the same species. Thus are afforded representations of no less than five examples of the eggs of *Buteo leucurus*, eight of *Sterna hirundo*, and of others in like proportion, and the specimens chosen for illustration, as far as we are able to judge, are generally well-selected. When it is considered that in this portion of the work upwards of six hundred and eighty eggs are figured, while as yet but about two hundred *nominal** species are treated of, some accurate notion may be conceived of the extent to which the illustration of varieties is carried. Notwithstanding this, the low price of the work is marvellous.

---

* Of course it is only natural that Herr Ludwig Brehm, who, assisted by Herr W. Pässler, is the author of the letter-press accompanying Herr

Our limits will not permit us to comment at length upon all the four parts of Mr. Bädeker's book; let us therefore take the first only. We can hardly go into the question as to what birds should be included as European, or recognized as good species, and what should not, but the views of those who consider the *Aquila clanga* of Pallas from Central Asia distinct from *A. nævia,* may receive strength from the appearance of the eggs figured in Plate I., wherein the representations of the Eastern are decidedly larger, as is the case with the birds, and less deeply marked than those of the Western examples. In Plate II. the three figures of the eggs of the Osprey give but a faint idea of the numerous varieties presented by a really fine series, such as is possessed by at least one gentleman in this country. By Plate III. the characteristic differences of the eggs of the species of Buntings therein figured are very fairly preserved, and a respectable selection of each is given. For Plate IV., which comprises several of what according to the Editor are known in English as the "Trush" and "Ouzel," we cannot say so much. Those well-known favourites, "oft the earliest of the year," to which we have been used all our lives, the eggs of the Misseltoe and Song Thrush, and the Blackbird, have small justice done to their beauty; and we should like to have known a little more about the specimens figured of the supposed eggs of the *Turdus minor* of Gmelin, than that they were sent from Labrador "with the birds,"—a phrase greatly employed, it is true, by dealers, but which may mean anything or nothing, and we fancy in practice most generally means the latter. Plates V. and VI. afford us some examples from the Grallatorial order, and it is in these figures that the chief defect of the artist first becomes very apparent. Any person slightly acquainted with the principles of drawing must know that a marking, be it spot or blotch of any

---

Bädeker's plates, should walk in the way of his father; but there can be little doubt that many of the so-called 'species' erected by "the sturdy Nestor of German Ornithologists" are not even permanent local races, much less 'sub-species,' as some naturalists have chosen to consider them.

shape, on a convex surface, such as an egg-shell, presents its full form and dimensions only when placed exactly in front of the spectator, and consequently that all the markings, except the comparatively few on the portion of shell nearest to the eye, seem to be more or less contracted or in profile according as they are situated at a greater or less distance from that portion. On this principle therefore all drawings of eggs should be made. Simple, however, as it would appear to do this, yet in practice, as we can testify from our own experience, it is by no means easy. Hence it arises that there are few persons who can delineate an egg so that it may look like what it is intended to be, and not like a representation of a flat surface. Mr. Bädeker is much given to this defect, and we see in numerous instances the spots at the margin of his figures, which resemble eggs in being of the same shape as their shadows, exactly the same in size and form as those at the centre. This is especially to be observed in figs. 4 and 5 of Plate VI., representing the eggs of the Golden Plover and Dotterel. No amount of shading, no judicious arrangement of light, will avail anything towards producing on a flat surface the semblance of a convex one, so long as this first principle is neglected. Plate VII. is devoted to the Common, Arctic, and Little Terns, the different varieties of which we do not think have ever been so well illustrated, in spite of the one prevailing defect to which we have just alluded. Plate VIII. introduces us to some of the Ducks. We are not sorry to see that our artist figures mottled eggs of birds of this family, for we are inclined to think that the spots so often to be observed on eggs of the Eider, and occasionally on those of other ducks, are not to be regarded as monstrous, but as having the character of true markings. We doubt if eggs of the King Duck are generally so much more deeply coloured than those of the Common Eider, as would appear from Mr. Bädeker's drawings. Mr. Hewitson in the last edition of his work has figured (Eggs B.B. 3rd ed. Pl. CXV., fig. 2) one of the former, almost as pale in colour as a Wild Duck's, but until a larger series of more carefully identified examples than those usually received from Baffin's Bay are obtained, we hardly venture to pronounce judgment on this point.

We will, however, make bold to say that there is always a difference between the hues of the eggs of the Common and Velvet Scoters, unless indeed they have both suffered from the effects of air and light, and a more decided difference than is shown in Herr Bädeker's figures.

With regard to the remainder of the work, it will suffice to point out one or two slight inaccuracies, and to take a cursory glance at some of those points which may be regarded as presenting most interest to British Oologists. Our authors are certainly in error when they speak of the Three-toed Woodpecker of Europe being found in North America. Though by Swainson and older writers one of the Nearctic species was mistaken for the Linnean *Picus tridactylus,* there can be no question of its distinctness. So also it is a mistake to suppose that the range of the Common Kingfisher extends to Eastern Asia and Africa, each of these regions possessing its own stock of allied but quite independent forms. We suspect too that Herr Schrader, inverting the proper process, and identifying (?) the bird by the egg, instead of the egg by the bird, has successfully laid the foundation of an error in asserting that the Chiff-chaff goes as far north as 70° lat. We are indeed pretty sure that if it occurs at all in the Scandinavian peninsula, it is only in the extreme south. But the refutation of inaccuracies such as these, several more of which could be mentioned, many persons may consider irrelevant to the present subject, though for our own part, regarding the geographical distribution of species as one of the most interesting and important studies within the whole range of natural science, we are at all times anxious to see mistakes of this sort corrected.

We must remark that though our authors follow a practice which we cannot but commend, in giving for each species an English and French as well as a German common name, yet, by some extraordinary mischance, not to take notice of those accidental misspellings to which writers of a foreign language, and that language English, are always liable, they seldom light upon a name appropriate, or indeed at all commonly in use. Thus, what reader in this country would recognize *Aquila heliaca* as the "King's Eagle," or *Falco communis* as the "Blue-black

Falcon"? And we suspect, though we will not take on ourselves to assert the fact, that there are similar instances to be found among the French synonyms.

The information given in Mr. Bädeker's work respecting the nidification of the Green Sandpiper will most likely astonish the minds of British Ornithologists, though they may be already prepared for something extraordinary in the economy of a bird whose comings and goings are certainly not well understood. Those gentlemen who have lately tried to elucidate the mystery will be at least surprised to learn that they should have searched for the eggs of this species not only in the localities usually frequented by other birds its nearest allies, but as "the fir-trees are a dwelling for the Stork," so are they also, it would seem, occasionally for the Green Sandpiper! Hear our authors:—

"The nest is sometimes on the ground in a depression, or on a little hillock or the stump of a tree. The four eggs lie in a sort of nest of twigs (*Genist*), dry-grass, or fir-tree-needles. Often, however, also an old nest of *Turdus musicus* or *T. viscivorus* will be used; indeed Forester Hintz once found the eggs in a nest of *Columba turtur*, eighteen feet from the ground."

This sounds odd to our ears, but the original account, which appeared, we believe, in 'Naumannia,' is so circumstantial that we hardly know whether what seems to us the antecedent improbability of such a thing justifies us in doubting the statement. In our ignorance of the frank-spoken Forester's capabilities of rightly judging the evidence of his own senses, and giving him all the credit due to a man whose veracity has only been impeached by the character of his own testimony, which is certainly contrary to the experience of most people, we are compelled to look upon the question as a thorough contest of opposite improbabilities, and to confess that it would be a relief to us if his statement were confirmed by some other reliable witness.

There is one reflection soothing to our national vanity, with which we close Herr Bädeker's portfolio of plates and letterpress. This is, that though we do not pretend to know what gems "of purest ray serene" the dark unfathomed drawers of German egg-cabinets may contain, we are disposed to question the existence there of many of the '*Desideratissima*' of our collections. It does not appear that any egg—certainly not of any so-called "British Bird"*—is as yet figured in this work, of which one Oologist or another in this country has not examples, often of the best possible authenticity. This brings us to make a few remarks on the progress which egg-collecting has made within the last few years among ourselves.

We have now before us the cover of Part V. of Mr. Hewitson's *second* work (the *first* edition of the "Eggs of British Birds"), bearing date "1st November, 1843," on which that gentleman printed a list of what were then, as far as he knew, '*Desiderata*' to English collections. This list contains 52 species, 10 of which he subsequently obtained in time to figure them in that edition. Of the remainder, 15 more were represented in his *third* work, completed in 1856†. From this, however, he left out one—very properly considering that, though he had before included it, the specimen figured was not sufficiently authentic. This made the real increase 14, and the number still required 28. Of these at least 8 are now in British cabinets, and one is a doubtful, not to say a bad species, which thus reduces the number of '*Desiderata*' to 19. To this number 16 more must be added, to allow for those species which have of late been included with sufficient reason in the British list, or respecting the eggs of which, though they may have been figured, justifiable doubts may be entertained. Thus we obtain a final result of 35, as probably representing the existing deficiencies in the Oology of these islands. These 35 are, in our opinion, as follows:—

Swallow-tailed Kite.
Snowy Owl.
White's Thrush.
Gold-vented Thrush.
Dalmatian Regulus.

Parrot Crossbill.
European White-winged Crossbill.
American White-winged Crossbill.
Nutcracker.
MacQueen's Bustard.

---

* The European White-winged Crossbill can hardly be said to be an exception, for the egg represented (Pl. xx. fig. 10), though "beglaubigt ächte," was laid in a cage.

† We must not be misunderstood to mean that Mr. Hewitson's *third* edition comprised only 15 more species than his *second*, but that these 15 were included in his list of '*Desiderata*' above mentioned.

Sanderling.
Grey Plover.
Great White Heron.
Esquimaux Curlew.
Brown Snipe.
Curlew Sandpiper.
Knot.
Buff-breasted Sandpiper.
Little Stint.
Schinz's Sandpiper.
Pectoral Sandpiper.
Little Crake.
Red-breasted Goose.
Spur-winged Goose.
Bewick's Swan.
American Wigeon.
Steller's Western Duck.
Buffel-headed Duck.
Sabine's Gull.
Bonapartian Gull.
Cuneate-tailed Gull.
Ivory Gull.
Pomerine Skua.
Capped Petrel.
Wilson's Petrel.

We doubt not there are many gentlemen who are in the full belief that they possess one or more specimens of several of the species named in the above list, and we know it is not without risk of incurring their displeasure that we venture to express our hesitation to agree with them, for in some cases to doubt the authenticity of a collector's specimens is to doubt his word. But we do *not* assert that such eggs do not exist, or even that we may not have seen them; still less do we set up our opinions as infallible. All we would do is earnestly to implore those from whom we have the misfortune to differ calmly and dispassionately to try and examine for themselves the amount of evidence on which the authenticity of their specimens depends. It is, we allow, no use to require its being of such a nature as would be admitted in a court of justice, though that would be desirable; but we ask, is it such as ought to carry conviction to a plain-thinking and unbiassed mind? We fear not. The homely proverb, "Every man thinks his own geese to be swans," is not inapplicable on those occasions, for, as soon as a person becomes the possessor of a supposed much-desired specimen, he becomes also at once and unconsciously a firm believer in its genuineness. However, we hardly dare venture further: the duty of 'Devil's Advocate' is an ungracious one, but, if it be found necessary to satisfy the public as to the merits of a candidate for the honours of Saintship, much more is it requisite that the fair fame of a specimen which is to command the respect of Oologists should be as free from suspicion as "Cæsar's wife."

And now a few words on the best means of remedying these deficiencies. For the eggs of the first in our list, the Swallow-tailed Kite—hardly, indeed, to be called a British Bird—we must look further south than we have mostly been accustomed. The Oologists of the United States can give only second-hand accounts of its nidification, but we hope it may fall to the lot of the painstaking Mr. O. Salvin to procure what we want from Central America. A supposed egg indeed exists in the British Museum, but without resting, as far as we can learn, upon any reliable authority. The Snowy Owl's, we are led to hope, may "some year when the lemmings again swarm in the mountains," reward the unwearied efforts of the most experienced and, we are glad to add, the most successful collector of our time, Mr. John Wolley, who, we trust, like an oological Charles XII., is still resolved to "think nothing gain'd while aught remains," and determined that all shall be his "beneath the polar sky." The clue to the nesting-places of the two Thrushes in our list is still to be found, and we cannot add to the already published information relating to the Dalmatian Regulus. For the Crossbills, the sub-arctic forests of both Old and New Worlds are to be investigated with the best chances of success, and even while we write we hear that an accomplished Naturalist in the North of England has good expectations of some authentic eggs of *Loxia pityopsittacus.* The Nutcracker is perhaps something of a reproach to British birds'-nesters, for we understand that its eggs are in more than one Continental cabinet, but we feel pretty confident that they are within the reach of any person who would pass the first three or four months of the year in the Swiss forests (by the way, a friend has reminded us that snow-shoes, either on the Canadian or the Scandinavian plan, would be useful auxiliaries), and we beg leave to make this suggestion to the members of the new 'Alpine Club,' some one of whom might find the occupation a pleasant variety to the now hackneyed adventures on "Peaks, Passes, and Glaciers." For MacQueen's Bustard we must look to Persia if not to our Indian Empire, and doubtless not many years will pass before we obtain some tidings of its nidification, and specimens of its eggs. Professor Nordmann is said to have found the Great White Heron breeding in Poland, but for ourselves we can place no confidence in the many supposed eggs said to come to this country from Russia, though there is little doubt that satisfactory specimens might be obtained thence. The greatest interest, however, gathers round the nidification of those Waders, such as the Grey Plover, Sanderling, Pigmy Curlew, Knot, and Little Stint *, which at irregular intervals and for short periods throng our shores in large bands, and yet of whose breeding-quarters what Englishman can speak with certainty? Dr. Middendorff, indeed, obtained eggs of the first mentioned, one of which is figured in his work, but he failed to penetrate the mystery which envelopes the movements of the others. Even almost at the extremity of the North-East Cape, in latitude 78° N., where the continent extends nearest to the pole of anywhere in the world, this intrepid voyager found in spring flocks of these species, restlessly pressing onwards, and in autumn there they were again, returning with their broods, to winter perhaps in the burning plains of India, by the great lakes of Central Africa, or even to push their outposts as far as the Cape of Good Hope or the still unknown shores of New Guinea. Vain seems at present the expectation of triumphing over the obstacles which offer themselves to the Oologist in this direction, but when the present undeserved unpopularity of Polar Exploration is overcome, when political emergencies have passed away, and adventurous spirits in our navy find no scope for their energies in a piping time of peace, may we not hope that a period may return when the fond dreams of old "Arctics" may be realized, expeditions fitted out, and the circumpolar regions reached, while their zoology is investigated by worthy successors of Richardson and Sabine? †

We depend on the Naturalists of Canada and the United States helping us to a knowledge of the peculiarly North

---

* We had almost added to the number the Grey Phalarope, for, though there is reason to think that bird breeds in Iceland, we have no confidence in any of its reputed eggs received therefrom, but we recollect the specimen in the late Mr. Yarrell's cabinet, which, at his sale in 1856, passed into the hands of one of the keenest and most kind-hearted of collectors. It came from Melville Island, and is probably genuine.

† In an admirable article on the additions made of late to European oology, the editor of 'Naumannia' recently stated that the Little Stint had been found breeding in Siberia—but without giving any authority for the assertion. ('Naumannia,' 1858, p. 125.)

American Waders, such as the Esquimaux Curlew, the Brown Snipe, the Buff-breasted, Schinz's and the Pectoral Sandpipers. Eggs of the first of these are said already to have been taken in Labrador, though we do not learn on what authority, and of the third and last we believe specimens exist even now in Trans-Atlantic cabinets, obtained by Professor Kumlein and Dr. Heermann. The Little Crake may be expected from Southern Europe, or, through some follower of Mr. Tristram and his friends, from Algeria. The Red-breasted Goose has already been discovered breeding in Siberia by Dr. Middendorff, and he figures one of its eggs, while the Spur-winged must be sought for in Africa. The *incunabula* of Bewick's Swan still form a puzzle. We do not credit the statement, though the assertors and repeaters of it are no mean authorities, that it nests in Iceland; but believe it to be a more eastern species, and, if any part of Europe furnishes it with breeding quarters, we would perhaps indicate the Samöied country drained by the Petchora as the favoured spot, on the dreary coasts of which also, or in Nova Zembla, Steller's (miscalled the "Western") Duck, which was found by Dr. Middendorff breeding in Eastern Siberia, may rear its young in peace. For the American Wigeon and Buffel-headed Duck the Hudson's Bay Territory is our land of promise, while we fear that for the different species of Gulls—except indeed the Bonapartian, which possibly has not a Polar range, and may be found breeding even as far south as the Saskatchewan or Athabaska valleys—we must await the *Saturnia regna*, and the renewed Arctic expeditions which we have above predicted. Hopes respecting the Pomerine Skua from Lapland, Dr. Middendorff having already obtained its eggs in Siberia, have been held out to us by Mr. Wolley, while, as a contrast to nearly all the localities we have enumerated, those Islands of the Blest, the remains of the old Atlantic Continent and the "Cays" of the West Indian Archipelago may be the scene of a "crowning victory" over the last in our list—the Petrels—and finally reward the Oologists' "youth of labour with an age of ease."

To Doctor Brewer's work we cannot devote the space which the care bestowed upon it should deserve at our hands. It really is, what it professes to be, "designed to describe and illustrate the Oology of North America," and the descriptions are not limited merely to notices of those species of whose eggs the author can supply illustrations, but give as much information as possible about what are still '*Desiderata*' to him. It possesses, too, a quality as remarkable, we regret to say, for singularity as for merit: "In all instances the illustrations are taken directly from the egg itself, and in none has any attempt been made to make use of drawings," for, with a few praiseworthy exceptions, this is a fact which cannot be asserted of oological works in general. However, we do not entirely agree with the Doctor in the remarks which follow the above-quoted passage, for we consider that we have in England at least one draughtsman whose works give an unqualified contradiction to our author's opinions; but we have already in this article noticed the great practical difficulty of depicting eggs accurately, and the consequent scarcity of competent artists. In the absence, therefore, of a Trans-Atlantic Mr. Hewitson, Dr. Brewer is quite right in the course he has pursued, which is that of profiting by an "ingenious application of photography to the aid of lithography;" and the result is a series of figures, somewhat deficient, perhaps, in brilliancy, yet certainly sufficiently well coloured, and of course unsurpassed in the fidelity with which characteristic markings are rendered.

Of the letter-press of the work we are also justified in speaking highly, though it is no more than might be expected of the author. In his own language, his design "embraces as its legitimate subjects the external shape, size, and markings of the eggs, the nests, or the substitutes for nests, the general habits of the birds peculiar to the breeding season, and their geographical distribution, especially so far as the last may be in connexion with their nesting;" and we are bound to say that Dr. Brewer is not one of those writers who keep the word of promise to the ear, but break it to the hope. If there be any let or hindrance to the due performance of what he has undertaken, it is a stern necessity—*quam vincere non datur*—that compels him to yield. Oology in the United States labours under the disadvantage of having but few votaries, though of a truth their paucity is in some measure compensated for by their ardour. We therefore heartily wish well to the grand undertaking commenced by the Smithsonian Institution, which was announced to our readers in our last number by Professor Baird (*antea*, p. 334), and trust it will enable our author, in a supplementary publication, to fill up many of those voids, the existence of which we regret as much as he can. The following extract from the Doctor's Introduction affords a remarkable contrast to the results we just now laid before our readers with regard to the oology of these islands:—"The present Part embraces the descriptions and illustrations of the eggs of the Order *Raptores*, and of the Tribe *Fissirostres* of the Order *Insessores*. So far as he [Dr. Brewer] is at present aware, these include seventy-nine species inhabiting North America. Of these the eggs of no less than twenty are still entirely unknown to him, while of those of eleven others he has no means of giving illustrations." That is to say, the deficiencies of North American as compared with British Oology, in this Order and Tribe, are as $\frac{31}{79}$ to $\frac{2}{44}$, or more than 8·5 to 1!

Lest it be thought that Dr. Brewer is one of those "faultless monsters whom the world ne'er saw," we must, we suppose, particularize a few points wherein we must join issue with his opinions; but this we assure our readers we do not do without some diffidence. We are most inclined to complain of what we think is a tendency on his part to hasty generalization: thus, the worthy Doctor argues that additional proof of the distinctness of Nuttall's *Buteo montanus* and the *B. borealis* of authors is furnished by the differences observable in their eggs. Now, of the first-mentioned bird, since it appears that he has seen only *two* examples, both from the same nest, it seems hardly fair to *assume* that these represent the typical appearance of the egg; and, again, even if it be that they do so, and also that the learned author's assertion be correct, that "they bear no resemblance to any eggs of *B. borealis*" that he has ever seen, we cannot agree with him in his deduction, because the character of one of them, judging from his figure (Pl. I. fig. 6), is exactly that often seen in the eggs of Buzzards generally, and, we take it, of *B. borealis* among them. We are not in a position to pass an opinion on the propriety of separating the birds specifically, and, if we were, this is not the place to discuss the question; but we must record our belief that the case of the separatists is not strengthened by the evidence adduced by our author.

As a set-off to this, we must give the Doctor all praise for, in most cases, resisting the strong temptation by which some naturalists are often overcome, to erect into species those races of birds, permanent though they be, which, by more general consent, are on good grounds supposed to represent the same creation in both Old and New worlds. It is true that the opposite course, which also has its strong advocates, of taking no heed whatever of the differences which may exist between these regional varieties, is greatly to be blamed, and it appears to us that the *via media* is the safest road to travel, duly considering that local differences do not of necessity make specific distinctions. Thus, though we are far from considering the Golden Eagles of Europe and North America as otherwise than specifically identical, we highly applaud Dr. Brewer's declining to figure an egg of the former race in default of one of the latter. We have said that our author, in most cases, is free from a species-making inclination; but there are exceptions, such as the Fish-Hawk and Short-eared Owl of America, which he regards as indubitably distinct from their European *pendants*; and, with regard to the former, complains of the "unaccountable persistence in error" on the part of some English naturalists, not one of whom, we venture to assert, ever quoted "extracts written exclusively in reference to the American bird" without mentioning the source of the information, a fact alone sufficient to guard against any chance of mistake. Dr. Brewer remarks that "in their habits the European and American birds are much more decidedly different than in their own markings or in those of their eggs," and proceeds to particulars, most of which are questionable, as, for instance, that the bird from the Old World "is found only in solitary pairs," and "rarely builds on trees," but "sometimes on the ground among reeds," though it "almost uniformly resorts to rocky cliffs to breed." The fact has not been sufficiently considered, that the habits of birds, as of men, vary according to the circumstances in which they are placed, such as the facilities of getting food or lodging. It is no more rational because the

Osprey does not live in large societies like the Fish-Hawk, to conclude that, therefore, they must be specifically distinct, than it would be to suppose that the back-woodsman and the Bostonian are not of the same origin because the one prefers the crowded city and comforts of civilization, and the other seeks solitude and hardships in the far West. We refer Dr. Brewer to Dr. Kjærbœlling's 'Danmarks Fugle,' wherein (p. 11) is mentioned an instance of "many pairs" of the European Osprey breeding for about forty years in the woods at Holsteinborg in Zealand, and we believe the instance is not a solitary one in the districts where the bird most abounds. In these countries too, as, for example, in Lapland, we have Mr. Wolley's testimony ('Catalogue of Eggs,' 1855) besides, for its commonly breeding "in high trees," and the assertion that it builds "on the ground among reeds," rests on no better authority than the story of its having its left foot subpalmated, as was stated by Linnæus, and is about as true. In Scotland certainly it often makes, or rather made, its nest on ruined towers, and even occasionally, but very far from "uniformly," on rocky islands; but this is as certainly a departure from its usual habits as observed in other places, and is perhaps occasioned by the unrelenting persecution to which it is there subjected. We will, however, suggest a difference in the eggs of the American and European birds which we ourselves have invariably observed, and to the benefit of which species-makers are perfectly welcome, and this is, that we can always distinguish between eggs from the two continents with our eyes shut—by the *smell.*

We had intended to make some observations on other species, especially our author's "*Hierofalco sacer,*" under which name he blends the two easily recognizable races of the great northern Falcon (*Falco candicans,* Gm., and *F. islandicus,* Sab.), both of which we doubt not occur in the United States, as they do in the United Kingdom; and also on the singular fact* of the egg of the American Gos-Hawk being so unlike that of its European congener, besides remarking on some other points; but the length of our article warns not to try further the patience of our readers.

---

* We say "fact" because Dr. Brewer expresses no doubt of it; but is it quite certain there can be no mistake here? It is very seldom that *Astur palumbarius* lays spotted eggs, but we never saw one *even ascribed* to that species with anything like the amount of mottling exhibited by Mr. Winslow's example (Pl. I. fig. 5).

We cannot, however, conclude without referring to the loss we have recently experienced in the removal from among us of one of the oldest, if not the very oldest, of British egg-collectors. The frequenters of the meetings of the Linnæan and Zoological Societies will henceforth look in vain for the kindly smile and hearty greeting of John Drew Salmon, one of the pioneers of oological discovery, and an active member of that band of zealous working men which numbered in its ranks Hoy and Heysham and Yarrell, besides others still happily spared to us. Long may they continue to enjoy the results of their hard-earned labours, and that they may be succeeded by a generation as indefatigable as they themselves were, is, we are sure, as much their wish as it is ours. Mr. Salmon, we are informed, has bequeathed his valuable cabinet of eggs to the Linnean Society, where we trust it will be preserved intact, as a monument to the memory of a thoroughly single-minded man, and an example to future naturalists of the care and discretion necessary in forming an eminently trustworthy oological collection.

September, 1859.

XLIII. *On the Ornithology of Northern Africa.* By the Rev. H. B. Tristram, M.A., F.L.S. (Part III. *The Sahara, continued.*)

[Continued from p. 301.]

44. Pratincola rubetra. (Whinchat.)

45. Pratincola rubicola. (Stonechat.)

Both Stonechat and Whinchat are common in the oases as winter visitants. The plumage of *P. rubicola* in the Sahara is much richer in colour than in specimens obtained on the coast, which are in their turn more brilliantly marked than the generality of our British specimens. I have had, through the kindness of Sir W. Jardine, an opportunity of examining a series of the South African species (*Pratincola pastor,* Strickland), and find that none of my North African birds equal it in the purity of the black on the upper parts, nor have they the distinct distribution of colour on the shoulders and flanks, from which Mr. Strickland defined the species. Yet, on arranging a series from various localities, it seems almost impossible to draw the precise line between the local varieties or species of this almost cosmopolitan bird.

46. Ruticilla moussieri. (Moussier's Redstart.) *"Zinzukh,"* Arab.

This most beautiful and charming of all the Algerian birds was first obtained by me in 1855, near Boghar, on the southern slope of the Western Atlas. This is, I believe, its extreme northern range in the western part of Algeria, and it has not been observed, so far as I am aware, in the province of Oran or in Morocco. But in Tunis it approaches nearer the coast, and was there discovered by Mr. Fraser some years before Leon Olph-Gaillard described it in 1852 in the 'Proceedings' of the Natural History Society of Lyons. It is an attractive little bird, as well in its plumage as in its habits and song, partaking of the characteristics both of the Redstart and the Stonechat, between which it appears to be a link. In the northern Sahara it is very scarce, but increases in numbers as we advance southwards, being always to be found in the gardens and palm-groves, and generally in the thickets of the dayats. In the whole of the M'zab country it is abundant, and its lively note and repeated cry, whence its name *"Zinzukh,"* may be heard about all the fruit-trees.

In the male bird the whole under plumage and upper tail-coverts are of a bright chestnut-red, as is the tail, with the exception of the lower portion of the two middle rectrices; the head and back black, with the feathers slightly fringed with brown; white forehead and line over the eye—broad white epaulets, and a broad white patch on the outer webs of the secondaries. The nest is compact, composed externally of sticks and moss, and internally of fine hair and wool, placed usually close to the ground in a low bush. The eggs, four in number, are of the size and shape of those of the Tithys Redstart (*Ruticilla tithys*), but of a delicate white suffused with a delicate greenish hue, unlike those of any other bird I ever saw, and which can scarcely be described on paper. In the eastern province we obtained several nests as far north as Batna.

47. Dandalus rubecula. (Robin.) A winter visitant to the oases.

48. Curruca atricapilla. (Black Cap.)

49. Curruca hortensis. (Garden Warbler.)

50. Curruca orphea. (Orphean Warbler.)

51. Sylvia curruca. (Lesser Whitethroat.)

52. Sylvia cinerea. (Whitethroat.)

All these five Warblers are common winter residents in the oases, and among the bushes of the ravines.

53. Sylvia conspicillata. (Spectacled Warbler.) *"M'zil,"* Arab.

The common and characteristic Warbler of the whole Sahara. Everywhere it appears to be a constant resident, resorting to the open grounds, where it haunts the small bushes and *Staticæ,* living indifferently on the salt marshes or on the more exposed and bleak plateaux. It does not appear ever to resort either to the oases or the dayats, and so far differs in its habits from all its congeners. Affecting no concealment, it hops in front of its pursuer from bush to bush, searching for small beetles among the roots of each. More than one or two are never seen together, but it is impossible to ride far without detecting it. In the spring of 1857, we found many nests placed about a foot from the ground in the centre of small low bushes in the north-eastern plains near the Nememcha country north of Biskra. The nest is deep, very artistically constructed, and contains four or five eggs, not larger than those of the Willow Wren, and much resembling the paler varieties of the Whitethroat's. I never observed any with the dark spots which are general on the latter.

54. Sylvia deserticola*, Tristram, Ibis, 1859, p. 58. (Desert Warbler.)

Found only in the southern portion of the Desert, where it seems partially to take the place of the Spectacled Warbler. I have seen it in localities where I should not have expected to find its congener, on the great plains where there were no shrubs or plants. It differs from the former in the colour of the top of the head, which is rufous instead of ash colour, and in the throat, neck, breast, and belly, which are of a uniform pale sand-colour, while the Spectacled, besides its whiter chin and dark throat, has a rich vinous tint down the whole of its flanks. Similar as the two birds are in winter dress, I can feel no hesitation as to the distinctness of these species, having frequently obtained both in neighbouring or the same localities at the same time of the year. I was unfortunately unable to visit the haunts of *S. deserticola* in the breeding season.

---

* *Stoparola deserti,* Loche, Rev. Zool. 1858, p. 394. pl. 11. fig. 1 (fig. pess.).—Ed.

55. MELIZOPHILUS PROVINCIALIS. (Dartford Warbler.)

Abundant in winter in the dayats, but never approaching the oases or the habitations of man. I do not believe that it is sedentary in the Sahara, but retires to the mountains to breed. I have taken several nests in the Atlas in the months of May and June.

56. PHYLLOSCOPUS TROCHILUS. (Willow Wren.)

57. PHYLLOSCOPUS RUFUS. (Chiffchaff.)

58. PHYLLOSCOPUS BONELLII. (Bonelli's Warbler.)

Abundant in the oases in winter, but retiring northwards at the end of February. The Chiffchaff especially assembles in thousands in the palm groves of El' Aghouat. The Arab name for all three species is "*Millil.*"

59. CETTIA SERICEA. (Cetti's Warbler.)

60. HIPPOLAIS POLYGLOTTA. (Melodious Willow Wren.)

61. HIPPOLAIS PALLIDA, Gerbe. (Pale Warbler.)

Is not this identical with *Sylvia elaïca* of Lindermayer? It is found in the marshes about Tuggurt in considerable abundance, and I have taken many nests south of the Atlas.

62. CALAMOHERPE TURDOÏDES. (Great Sedge Warbler.)

63. LUSCINIOPSIS SAVII. (Savi's Warbler.)

The former seen and heard, the latter heard, frequently during winter in the sedges round the Sebkha, Waregla, N'goussa, and Tuggurt.

64. Aëdon galactodes. (Rufous Sedge Warbler.)

This bird, certainly no true *Salicaria* or Sedge Warbler, was frequently observed in the Desert during winter, hovering about the outskirts of watered gardens or hopping among the tamarisk-trees. But as its breeding habits came under our notice very constantly in the Atlas, I shall defer all further notice of this eccentric Warbler for the present.

65. Drymoïca striaticeps*. Tristram, Ibis, 1859, p. 58.

In one and only one locality did I meet with this most graceful Warbler. On the route between N'goussa and Temaçin we had halted for a few hours by the salt-lake of Aïn Bahrdahd, one of the most extensive of the few natural wildernesses of the Desert, and which had not at that time been visited by any European. Wandering in the swamp in pursuit of *Crateropus fulvus*, I was struck by a clear long-drawn call of five notes, unlike any I had ever heard—*whēē-why-whe-whĕ-hēē.* It was long before among the tamarisks I could descry the songster, whom I at length observed, now running up the boughs like a Creeper, and then poising himself on a twig with his tail perpendicularly expanded and jerking it backwards and forwards. I only obtained a pair, but saw two or three others. Captain Loche has, I believe, since obtained it at the same spot. It occasionally poises itself in the air and suddenly drops down again among the long grass. The whole upper portion of the body is of a delicate ash-brown, reddish towards the tail, and the feathers on the crown having a dark streak down the centre of each; the eyebrows whitish; a narrow black mark between the eye and the gape of the beak; the primaries brown; the tail a darker brown, except the outer rectrices, which are white, and the next pair with a white patch at the extremity. The whole under plumage white, with a faint rufous tinge on the flanks; tarsi and bill a pale orange colour. Whole length 4·25 inches, wing 2·75, tail 2·1, tarsi 0·75, bill 0·5. The sexes are similar in plumage.

---

* *Malurus sahara*, Loche, Rev. Zool. 1859, p. 395. pl. 11. fig. 2.—Ed.

The occurrence of this little bird in perhaps the most isolated locality of the whole Sahara is very interesting.

66. CRATEROPUS FULVUS (Desf.). "*Erbib el Hadjel,*" Arab., *i.e.* the Adopted Son of the Partridge.

This bird, discovered by Des Fontaines in the last century, forms one of the features of Saharan ornithology, numerous wherever there are trees either wild or cultivated, and as noisy and garrulous as the Starling, whom it much resembles in its manner of flight. It flies very straight with its long tail expanded, and is very wary. Often secreting themselves by threes and fours in a shrub, these birds remain closely concealed, till at the pursuer's near approach they silently steal away close to the ground to the next bush. They are generally in companies of seven or eight. Invariably do they alight at the foot of the tree or bush, and then noiselessly creep up to the very top, descending in line on the other side, except one sentinel who remains perched on the topmost bough to give the alarm of danger. Often as I have watched them, I never saw them omit this precaution. The note is very peculiar—*chur-churr-r-r—wheer-wheer-wheer.* The nest is a loose fabric of sticks and fine roots and straws; and I was told by the Arabs that they lay a blue egg, which Captain Loche has since had forwarded to him, and of which I have received a specimen. They are considered good eating by the French Spahi officers, and have wonderful medicinal qualities according to the Arab Hakeems. I found the flesh bitter and dry. The sexes are alike in plumage. On dissection I have found the gizzard filled indiscriminately with beetles and seeds.

67. MOTACILLA ALBA. (White Wagtail.) "*'M'sissi,*" Arab.

68. BUDYTES FLAVA. (Yellow Wagtail.)

Both extremely abundant wherever there is moisture, saline or fresh, all through the winter. The White Wagtail is both scattered and frequently in vast clouds. Of the Yellow I have found the two varieties *flava* and *cinereocapilla,* but did not in the Desert meet with the lighter-coloured extreme, *B. rayi,* nor with the darker-headed variety, so common in the East, *B. melanocephala.*

None remain during the summer, though *B. flava* breeds in the Atlantic district.

69. ANTHUS CAMPESTRIS. (Tawny Pipit.)

Abundant on the Hauts Plateaux. Not seen further south.

70. ANTHUS PRATENSIS. (Meadow Pipit.)

71. ANTHUS ARBOREUS. (Tree Pipit.)

Both obtained apparently on passage, the former in large, the latter in smaller flocks throughout the winter.

72. OTOCORYS BILOPHA. (Desert Horned Lark.) Temm. Pl. Col. 241. fig. 1.

This elegant and singularly-marked bird is by no means abundant anywhere in the Desert, but may occasionally be met with in parties of five or six on gravelly slopes,—never, so far as my observation goes, in the sandy districts. I have found it not far from the dayats. Heuglin's remark is, "It is certainly only a variety of *Alauda alpestris*. I found it only in Arabia Petræa in summer. In winter it did not occur to me there." (Vög. Nord-ost Afrik. p. 43.) This was also the impression of the informant of Capt. Loche, on whose authority *O. alpestris* is mentioned as Algerian. My experience so far differs from Dr. Heuglin's, that I found the bird *throughout* the winter, the labels on my specimens ranging from November to March, in localities precisely similar to Arabia Petræa. There is a considerable difference in size between the two species, my series of *O. bilopha* rarely exceeding 5¾ inches in length, and the length of wing 3·8 inches, while *O. alpestris* is usually 7 inches in length, and the wing from carpal joint 4¼ inches. The black tufts of feathers or horns extend in the male ·9 inch behind the eyes, which considerably exceeds the length of the corresponding tuft in any specimens I have seen of *O. alpestris* in the breeding-season; and though the relative distribution of the plumage is similar in both birds, yet the coloration is of so very distinct a hue that it is difficult for me to believe in the identity of the species. There is not a trace of yellow in the plumage of *O. bilopha*, its place being supplied by the purest white; and the whole upper plumage, scapulars, and wing-coverts are of a uniform rich isabel colour, paler than in any other Desert-lark, except

Ammomanes pallida. It would be remarkable and unusual were the same species, which is migratory as far as the Arctic circle, to be found resident on the arid plains of Arabia and Africa under conditions so dissimilar from those of its northern habitats.

73. Calandrella brachydactyla. (Short-toed Lark.)

Many flocks occur in winter in the neighbourhood of the oases and on the northern limits of the Sahara. It breeds abundantly under the slopes of the Atlas, but not, so far as I am aware, in the Desert.

74. Calandrella reboudia, Loche, MSS.; Ibis, vol. i. p. 58. (Reboud's Lark.)

I have retained the name given to this bird, in honour of Dr. Reboud, a zealous Algerian naturalist, by Capt. Loche, although he has not yet published a description of the species. It differs from *C. brachydactyla* in having the outer portion of the external rectrices of a pure white, and the beak much shorter and stouter, besides the usual pale coloration so distinctive of Desert birds. It is, unlike its congener, a permanent resident in the Desert, and has a wide lateral range, as I have obtained it in the western Sahara, and have received a female specimen, with a nest of four eggs, taken a little to the south of El Djem, in the Regency of Tunis. The eggs are like large varieties of *C. brachydactyla.* I am not aware of the two species ever occurring in the same localities. The present is most probably merely a Desert form of its congener.

75. Ammomanes isabellina (Temm.); Consp. Av. p. 244. (Desert-Lark.)

Occurs first on leaving the Hauts Plateaux in small numbers, but is more plentiful further south, inhabiting the open plains, where it is difficult to conceive how it finds subsistence. Its lateral range is wide. I have obtained it from the frontiers of Morocco to Arabia Petræa. It is sedentary, and breeds both in the Algerian Sahara and in the wilderness of Judæa, in both which localities I have taken the nest, neatly formed of grass in a depression under a tuft of weeds, and with four eggs, in size nearly equal to those of *Galerida cristata*, but never so elongated, measuring 11 lines by 8 lines, of a rich cream colour, blotched, especially towards the large end, with brown and red spots. In its habits this very distinct species exhibits, so far as I am aware, no distinctive peculiarities, living in small flocks, and poising itself in the air like its congeners. Its notes are few, though not unmelodious, and its song will bear no comparison, either in volume or sweetness, with that of the Skylark. It varies considerably in size, but its average length is about 6½ inches.

76. Ammomanes pallida, Cab., Mus. Hein. p. 125. *A. elegans*, A. Brehm. (Pale Desert-Lark.)

This Desert Lark may be distinguished at a glance from the former, not only by its inferior size, as it measures only about 5½ inches in length, and wing from carpal joint 3·8 inches, but more especially by the distinct black bars on the extremities of the rectrices and primaries. Its whole plumage, too, as its name implies, is of a paler colour, and without the reddish hue which pervades *A. isabellina*. The beak is very stout and conical, only 4 lines from the gape, while that of *A. isabellina* measures 6 lines. It is more strictly confined to the southern Sahara, never being found in the northern or rocky districts, and though not scarce in its localities, is rather solitary in its habits, more than two or three being very rarely observed together. Its flight is jerking and short; nor have I noticed it poise itself on the wing. Its notes are very varied and melodious, but not powerful. The egg is peculiar, similar in shape to that of *Caland. brachydactyla*, measuring 9 lines by 7; the ground-colour dingy white, and covered over its whole surface by very minute brown spots, but never blotched.

77. Ammomanes regulus; Bp., Compt. Rend. xliv. p. 1066 (1857): Rev. et Mag. de Zool. 1857, p. 283. (Little Desert-Lark.)

This beautiful little Lark, first described by Prince Bonaparte from specimens procured for him by Capt. Loche, is decidedly the smallest of its genus, measuring from 4½ to 4¾ inches in length, and in length of wing from carpal joint 3·4 inches. In general coloration it resembles the preceding species, but is on the whole paler in its hues, the flanks being pure white instead of sand-colour; and the breast, which in *A. pallida* is of a very pale isabel, is in *A. regulus* white, with faint traces of pale isabel on the centre of some of the feathers. But the most characteristic difference is in the coloration of the primaries and rectrices. The former are only faintly tipped with blackish brown; and on the tail, instead of a broad bar of black, there is a triangular mark, commencing on the inner edge of the external rectrices, and extending at its apex half an inch on the central quill. The tarsi, feet, and bill are of a dingy white. It is a very scarce bird, and only occurs on the southern limits of the Sahara, near Waregla, and in the southern portion of the Chamba territory.

78. Alauda arvensis. (Skylark.)

Stated by Capt. Loche to visit the Sahara in winter, but never came under my observation.

79. Rhamphocoris clot-bey. (Cavaignac's Lark.) *Melanocorypha clot-bey*, Bp. Consp. Av. p. 242. *Ierapterhina cavaignacii*, Des Murs, Rev. Zool. 1851, p. 25, pl. 1.

This grotesque and singular-looking bird is found in small flocks on the mountain-sides south of El Aghouat. I never heard of its being obtained in any other locality, nor did I ever meet with it but on one occasion, when I obtained four specimens. In its flight it resembles the other Larks, and at first sight, from the broad black and white bands on the secondaries, might be taken for *Certhilauda desertorum*. It runs with great rapidity, and is very shy. The whole of the upper plumage is ruddy isabel. The neck and breast whitish, with large round black spots occupying the centre of each feather; cheeks and moustache black, with a white subauricular spot; throat white. Primaries brownish black; secondaries black, with the lower third part pure white; rectrices sandy white, with a small brownish-black spot on the inner web of the external feathers, increasing in each feather, until in the centre one it occupies a third of the whole length. Tarsi and feet covered with very prominent white scales; hind claw not equalling the length of the toe. But the most singular feature of the bird is its bill, which is, I believe, without an analogue. It is very solid, conical, and arched, ·7 inch from the gape, and ·5 inch perpendicular diameter, stone colour, but black at the tip. The lower mandible has a sharply-cut notch on each side about the centre, over which a semicircular portion is scooped out of the upper mandible, leaving a crescent-shaped aperture, through which a straw may be passed, and then at an acute angle fitting closely down on the lower mandible, which, though notched, is perfectly straight along its whole centre line.

Total length 6½ to 6¾ inches. Wing from carpal joint 5 inches. Tarsi ·9 inch.

80. MELANOCORYPHA CALANDRA; Bp. Consp. Av. p. 242. (Calandra Lark.)

Though swarming on the coasts, and by far the most common Lark in the Tell, the Calandra soon becomes scarce in the interior, and can only doubtfully claim a place in the Sahara list. The two specimens I obtained on its edge are decidedly larger than those of the plains on the other side the Atlas, measuring 8 inches in length, with beaks more robust and longer than in other specimens, ·8 inch from the gape instead of ·6 inch, but do not exhibit any further specific distinction.

The Calandra is in high esteem by French epicures, and ranks among the best '*gibier*' of the Algerian chasseur.

81. GALERIDA CRISTATA. (Crested Lark.) "*Goubah,*" Arab.

In the north of the Sahara. Further south its place is supplied by its congeners.

82. GALERIDA ABYSSINICA; Bp. Consp. Av. p. 245. (Abyssinian Crested Lark.)

The commonest Lark of the Desert, though scarcer in the southern districts. It differs only in colour from the *G. cristata*, being of a rufous isabel hue on the upper parts, with darker lines down the centre of each feather. Its eggs resemble pale varieties of its congener.

83. GALERIDA ISABELLINA; Bp. Consp. Av. p. 245. (Isabelline Crested Lark.)

This very distinct variety is far less abundant than the last, being confined to the most desolate districts. It is much smaller, shorter by at least an inch, with its hues more uniformly pallid, and the darker mark down the centre of each feather almost obliterated. Its bill is of similar proportions, in no way differing from that of *G. cristata*. I do not find the remark of

Prince Bonaparte, as to the crest being longer, to hold good uniformly. I obtained one nest, the eggs of which resemble pale-coloured varieties of *G. cristata*, but are scarcely larger than those of *Calandrella brachydactyla*.

84. Galerida arenicola, Tristram, Ibis, vol. i. p. 58. (The Sand Lark.)

This bird may be at once distinguished from its congeners by its bill, which is extremely elongated, slender, and curved, its length being ·9 inch from the gape. The total length is from 6½ to 6¾ inches, being the full dimensions of *G. abyssinica*. Its coloration also is similar, but paler, and the flanks and belly are suffused with a faint isabel hue. From its beak, and general conformation, it seems to be a link between the genera *Galerida* and *Certhilauda*. I met with it only in the extreme east of the Algerian and in the Tunisian Sahara. Circumscribed by these almost unexplored tracts, it has probably hitherto escaped the observation of naturalists.

85. Galerida macrorhyncha; Tristram, Ibis, vol. i. p. 57. (Long-billed Crested Lark.)

Unlike its congeners, this bird, by far the largest of its genus, appears only to resort to the northern edge of the Sahara, where its lateral range extends from Morocco to Tripoli. As might be anticipated from its habitat, its plumage partakes only in a slight degree of the sandy hues which mark the true Desert habitants, although very much paler than any Crested Larks obtained in Europe or in the Tell. It is unnecessary to repeat the diagnosis already given in 'The Ibis,' but its size will at once prevent it from being mistaken for any other species. Its whole length is 7·8 inches, wing 4·5, tail 2·8, beak 1·0, tarsi 1·05. The form of its bill resembles that of *G. arenicola*, but, though curved, it is not so slender, and is stouter and more compressed at the base. In both species the extremity of the bill is rounded and dilated, instead of running to a point as in other *Galeridæ*. This may probably arise from its habit of constantly digging into the soil for its food, from which cause also the capistra are generally much worn and the nostrils bare. It is very abundant near El Aghouat, where I first remarked it following the labourers in a barley patch, after the manner of a rook. It appears to be confined to those districts where there is water and cultivation. I was not fortunate enough to meet with it in the breeding-season. I presume that this is the species catalogued, but not described, by Captain Loche as *Galerida randonii*, as I first drew his attention to the bird as new, and supplied him with specimens in 1857.

86. Certhilauda duponti (Vieill.); Bp. Consp. Av. p. 246. (Dupont's Lark.)

This elegant and delicately marked bird—a link between *Galerida* and *Certhilauda*, beautifully illustrative of the gentle gradations by which Nature glides from one type to another—is, I believe, the very rarest of all the Larks of the Sahara. I found it only in the far south, in the Wed Nça, at which place it was also obtained by Captain Loche a few months afterwards. Neither of us ever saw more than two or three pairs. The white outer tail-feathers give it the appearance at first sight of our common Skylark, for which indeed it passed with my companion, who was the first to shoot it. Captain Loche obtained a nest of four eggs, one of which he kindly presented to me. As might have been expected, the eggs differ much from the typical characteristics of the Lark. They are very round, 9½ lines by 8, of a soiled white colour, with pale brown blotches sparsely scattered over the surface, bearing a strong resemblance to small varieties of *Lanius excubitor*, but with an ivory polished surface.

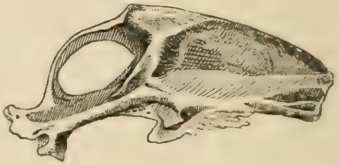
87. Certhilauda desertorum (Stanley): Bp. Consp. Av. p. 246. (Bifasciated Lark.)

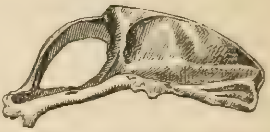
Universally distributed throughout the whole of the true Desert. Unlike its congeners, it seems to be a most solitary bird, and seldom, except in the breeding-season, have I seen even two together. But a day rarely occurred when we did not obtain a few specimens on the march; and indeed this game formed our principal and favourite animal food. Although its uniform of inconspicuous drab renders it most difficult of detection on the ground, its restless habits soon attract attention. The moment it extends its wings, the broad black bar across the snow-white secondaries attracts the eye and renders it an easy mark. At first sight it reminded me much of a Plover in the manner in which it rose and scudded away. Indeed there is nothing of the Lark in its flight, except in early morning, when I have watched it rise perpendicularly to some elevation and then suddenly drop, repeating these gambols uninterruptedly over exactly the same spot for nearly an hour, accompanying itself by a loud whistling song. It runs with great rapidity, and it requires no little speed of foot to capture a broken-winged victim. In the stomach of those I opened I found small coleoptera, sand-flies, and hard seeds. There is something very graceful in all its movements, and the distinct markings of its wings and the expansion of its long black tail render it really a beautiful bird when flying.

The egg is very large, 12 lines by 8; the ground-colour like that of *C. duponti*, but the brown blotches smaller and far more closely distributed, especially towards the broader end. It would not be easy to select it out of a series of some varieties of *Lanius excubitor*.

88. Certhilauda salvini, Tristram, Ibis, vol. i. p. 57. (Salvin's Lark.)

I have ventured to describe this bird as a species, and to name it after my friend Osbert Salvin, one of the most zealous of our young ornithologists, and the most amiable of travelling companions, though I am aware that it may be termed a local race more properly than a species. Its length is 7·8 inches, the wing 4·5, tail 3·1, tarsi 1·3, being about 1·5 inch shorter than *C. desertorum*. I found I could always distinguish the species on the wing by the broader white on the secondaries. It is also a much more slender bird, and the difference in the size of the skeleton is far greater than would have been imagined from the appearance of the skins in a cabinet.





To the accompanying sketches of the sterna of the two species I subjoin their comparative measurements:—

	C. desertorum. inch.	*C. salvini.* inch.
Joint of furculum to posterior end of sternum	1·7	1·4
Depth of keel	·45	·375
Length of keel	1·1	·8
Span of arch of keel	·7	·6

The smaller species I met with only in the southern and south-eastern districts, never in the central or western; but where it occurred, it by no means supplanted the commoner bird. I found, on consulting Captain Loche, that he had arrived independently at the same conclusion as myself, that there were two species, *i. e.* as species are now made.

Writing with a series of about 100 Larks of various species from the Sahara before me, I cannot help feeling convinced of the truth of the views set forth by Messrs. Darwin and Wallace in their communications to the Linnean Society, to which my friend Mr. A. Newton last year directed my attention, "On the Tendency of Species to form Varieties, and on the Perpetuation of Varieties and Species by natural means of selection*." It is hardly possible, I should think, to illustrate this theory better than by the Larks and Chats of North Africa.

In all these, in the congeners of the Wheatear, of the Rock Chat, of the Crested Lark, we trace gradual modifications of coloration and of anatomical structure, deflecting by very gentle gradations from the ordinary type; but when we take the extremes, presenting most marked differences. Are these extremes, it may be asked, further removed from each other than the Guinea Negro or the Papuan is from the typical Caucasian? and are these species aboriginal and indigenous, or are they developed by climatic and other local causes? I think the latter alternative almost demonstrable in the case of these birds. These differences of structure (I am using the word here in its widest sense, to include colour, form, and size) doubtless have a very direct bearing on the ease or difficulty with which the animal contrives to maintain its existence. In the Desert, where neither trees, brushwood, nor even undulation of surface afford the slightest protection from its foes, a modification of colour, which shall be assimilated to that of the surrounding country, is absolutely necessary. Hence, without exception, the upper plumage of every bird, whether Lark, Chat, Sylvian, or Sand-grouse, and also the fur of all the small mammals, and the skin of all the Snakes and Lizards, is of one uniform isabelline or sand colour. It is very possible that some further purpose may be served by the prevailing colours, but this appears of itself a sufficient explanation. There are individual varieties in depth of hue among all creatures. In the struggle for life which we know to be going on among all species, a very slight change for the better, such as improved means of escaping from its natural enemies (which would be the effect of an alteration from a conspicuous colour to one resembling the hue of the surrounding objects), would give the variety that possessed it a decided advantage over the typical or other forms of the species. Now in all creatures, from Man downwards, we find a tendency to transmit individual varieties or peculiarities to the descendants. A peculiarity either of colour or form soon becomes hereditary when there are no counteracting causes, either from change of climate or admixture of other blood. Suppose this transmitted peculiarity to continue for some generations, especially when manifest advantages arise from its possession, and the variety becomes not only a race, with its variations still more strongly imprinted upon it, but it becomes the typical form of that country. If it be objected that we see many varieties which do not become hereditary, we may reply, that these varieties having experienced changes not advantageous to their means of existence, may from that very cause become extinct. Still there are many which continue, as the Pied Raven of the Faroe Islands, and the Tailless Manx Cat.

---

* Journ. Proc. Linn. Soc. Zool. III. p. 45.

To apply the theory to the case of the Sahara. If the Algerian Desert were colonized by a few pairs of Crested Larks,—putting aside the ascertained fact of the tendency of an arid, hot climate to bleach all dark colours,—we know that the probability is, that one or two pairs would be likely to be of a darker complexion than the others. These, and such of their offspring as most resembled them, would become more liable to capture by their natural enemies, hawks and carnivorous beasts. The lighter-coloured ones would enjoy more or less immunity from such attacks. Let this state of things continue for a few hundred years, and the dark-coloured individuals would be exterminated, the light-coloured remain and inhabit the land. This process, aided by the above-mentioned tendency of the climate to blanch the coloration still more, would in a few centuries produce the *Galerida abyssinica* as the typical form. And it must be noted, that between it and the European *G. cristata* there is no distinction but that of colour.

But when we turn to *Galerida isabellina*, *G. arenicola*, and *G. macrorhyncha*, we have differences not only of colour but of structure. These differences are most marked in the form of the bill. Now to take the two former first. *G. arenicola* has a very long bill, *G. isabellina* a very short one; the former resorts exclusively to the deep, loose sandy tracts, the latter haunts the hard and rocky districts. It is manifest that a bird whose food has to be sought for in deep sand derives a great advantage from any elongation, however slight, of its bill. The other, who feeds among stones and rocks, requires strength rather than length. We know that even in the type-species, the size of the bill varies in individuals, in the Lark as well as in the Snipe. Now, in the Desert, the shorter-billed varieties would undergo comparative difficulty in finding food where it was not abundant, and consequently would not be in such vigorous condition as their longer-billed relatives. In the breeding-season therefore they would have fewer eggs and a weaker progeny. Often, as we know, a weakly bird will abstain from matrimony altogether. The natural result of these causes would be that in course of time the longer-billed variety would steadily predominate over the shorter, and in a few centuries they would be the sole existing race, their shorter-billed fellows dying out until that race was extinct. The converse will hold good of the stout-billed and weaker-billed varieties in a rocky district.

Here are only two causes enumerated which might serve to *create* as it were a new species from an old one, yet they are perfectly natural causes, and such as, I think, must have occurred, and are possibly occurring still. We know so very little of the causes which in the majority of cases make species rare or common, that there may be hundreds of others at work, some even more powerful than these, which go to perpetuate and eliminate certain forms "according to natural means of selection." But even these superficial causes appear sufficient to explain the marked features of the Desert races which frequently approach so very closely the typical form, and yet possess such invariably distinctive characteristics, that naturalists seem agreed to elevate them to the rank of species. The differences in size may be yet more simply explained by the facility or difficulty of sustaining existence in varying localities. On similar principles we may account for the existence of such a bird as *Galerida macrorhyncha* in the warm, genial climate of the Oases, where, winter being unknown, and food always abundant and close at hand, every stimulus is afforded to a vigorous development, while its prey being generally hidden in the soft open mould of the gardens and barley patches, any tendency to elongation of the bill is fostered and encouraged, until we find a race two inches longer than *Galerida isabellina,* and with a bill exactly double in length (1 inch instead of ·5).

A process precisely similar may be supposed to have developed the various species of Desert Chats, until we find in the desert of Souf that all distinctive trace of colour has been scorched out, and instead of the brightly clad *Saxicola stapazina,* we have no more cheerful representative of the genus than *S. homochroa.* Widely as these two extremes appear to be separated, yet a well-chosen series of the numerous African species of the class will exhibit a range of transitions so imperceptible, that it will be found very difficult without careful comparison to draw a line between one species and the next.

I cannot but hope that ere long ornithologists will systematically recognize, what is already admitted in a great degree by conchologists, the clear distinction between species and race. I do not see any difficulty in taking as the true definition of a species all the individuals who may resonably be presumed to have a common origin, though among them there may exist races differing from one another even in a considerable degree.

I do not mean for a moment to imply that such birds as *Rham-*

phocoris clot-bey have been developed out of any known European form, or that we are to presume so far to limit Creative Power as to endeavour to explain the growth of Desert species *universally* by the development of individual peculiarities. Wherever may have been the centre whence they sprung, undoubtedly there are many creatures to be found there which could not have been developed by any conceivable process from other known races. But whilst it is contrary alike to sound philosophy and to Christian faith to doubt the creation of many species by the simple exercise of Almighty volition, still, knowing that God ordinarily works by natural means, it might be the presumption of an unnecessary miracle to assume a distinct and separate origin for many of those which we term species. We may speculate on the question for a life-time; this conclusion alone so far is certain,—that every peculiarity or difference in the living inhabitants of each country is admirably adapted by the wisdom of their beneficent Creator for the support and preservation of the species.

89. LANIUS DEALBATUS, De Filippi: Bp. Rev. Zool. 1853, p. 293. "*Boorass,*" Arab. (The Pallid Shrike.)

While its numerous congeners who resort to the coast of North Africa are all migrants, the Pallid Shrike, which never transgresses the northern limits of the Desert, remains a permanent resident, breeding very early not only in the trees of the oases, but in the low jujubes and prickly shrubs of the dayats. Its nest and eggs in no way differ from those of the Great Grey Shrike, which it much resembles in size and general appearance. It is a remarkably fearless bird, and will remain calmly perched on the outmost edge of a palm leaf while a party is sitting and talking beneath the shade of the tree. It is extremely abundant in all the oases, and its plaintive cry may be heard in every dayat. I once saw one feasting on an impaled Dartford Warbler, but its usual food appears to be the large *Baps* which swarms in myriads through the dayats and weds. Under the old nests at least a bushel of beetle wings might be collected, and the insects hang impaled on every jujube thorn around. This is not a solitary bird, though hardly gregarious, but three or four may generally be found not far apart. It is a special object of dislike to the Willow Wren, whose clamours frequently disturb its noontide siesta.

No other Shrike came under my observation in the winter, nor did any appear to halt in the Desert on their vernal migration, though on our return to the coast we found that at least five species had arrived from the south.

90. Hirundo rustica. (Chimney Swallow.)

A few pairs of Swallows remained all the winter in each oasis; but none of those observed were in mature plumage, and I therefore presume that it is only the younger and weaker birds who stay behind. The Arabs informed me that for one swallow they have in winter they have twenty in summer, and that they usually retire about the end of November, returning in February. Certainly very few had arrived by the end of February, though in the beginning of that month I saw myriads on the wing at Biskra, which must have remained for some time in that neighbourhood, as they did not reappear in any considerable numbers in Tunis till the beginning of March. But throughout the whole winter a few were to be seen wherever there was water or marsh. The natives are perfectly familiar with the fact of the migration of vast flocks to the south, which all go, as they say, to Timbuctoo, the El Dorado of Arab and Swallow.

91. Cotyle rupestris. (Rock Swallow.)

I saw two of these birds in December in a ravine in the M'zab country.

92. Cotyle riparia. (Sand Martin.)

A few at El Aghouat in November. They did not appear to winter in the Sahara, and can only, I imagine, be stragglers there at any time, as the weds and oases afford them but few conveniences for nidification.

93. Chelidon urbica. (House Martin.)

Exactly the same remarks will apply to this bird as to the Chimney Swallow. A few pairs may everywhere be seen throughout the winter, while in summer, I am told, there is not a hovel without several building in the corners of the doorways, where their nests may generally be seen. Those I shot were in immature plumage.

94. Cuculus, sp. —— ?

I once chased for nearly an hour a very small Cuckoo, not far from Tuggurt, of a uniform sand-colour, with the long tail characteristic of the genus. Though several times very near it, I did not succeed in obtaining it; but some months afterwards I saw a skin of the same, or a most closely-allied species, in the possession of M. Hénon of Batna, the only other specimen I ever met with. I cannot refer the bird to any of those in the catalogue of Heuglin (his *Cuculus ruficollis* I do not know); and so convinced was M. Hénon that his specimen was unique, that he was unwilling to allow me to measure or describe it. In repose the bird at a distance is not unlike *Crateropus fulvus*, but is a little smaller. I met with it on a vast level chott or hard sand-plain, far away from any cover.

95. Merops apiaster. (Bee-eater.) "*Leemoon*" or "*Meymoona*," Arab.

A few stragglers occurred in November.

96. Upupa epops. (Hoopoe.) "*Thibeeb*," Arab.

Great numbers of Hoopoes resort to the M'zab cities and those of the other oases during the winter, where they are assiduous in searching the dunghills, and strut about all the court-yards and among the tents with the familiarity of barn-door fowls. They are held in much reverence by the natives for their medicinal and magical virtues, and are never molested. It is no praise to our superior civilization to reflect that the Hoopoe might be one of our regular English summer visitants but for the reckless selfishness of every fool who can handle a gun, and out of mere wantonness must needs destroy, on its first arrival, one of the most beautiful and certainly the most graceful of the feathered inhabitants of Europe. A few pairs remain in the weds to breed, but the greater proportion leave the Sahara in summer.

97. Cypselus melba. (White-bellied Swift.)

98. Cypselus apus. (Common Swift.)

Both these birds resort to the cliffs and the mosque-towers for nidification, but, unlike the Swallow and Martin, retire altogether in winter to still more southern regions. The Common Swift had not left El Aghouat during the first week of November.

[To be continued.]

XLIV.—*A List of the Tyrant-birds of Mexico, with descriptions of some new species.* By PHILIP LUTLEY SCLATER, M.A.

(Plate XIV.)

THE Tyrant-birds (*Tyrannidæ*) of the New World have, as is now well known from the researches of Joh. Müller *, Cabanis, and other writers, no natural affinity with the Flycatchers (*Muscicapidæ*) of the Old World, although their habits are in some respects similar, and they doubtless perform the same functions in the economy of nature in their respective hemispheres. While the Flycatchers are closely connected with the Warblers (*Sylviidæ*), so closely indeed that it is exceedingly difficult to decide to which of the two families to refer certain genera, the Tyrant-birds are so intimately allied with the Fruit-eaters (*Cotingidæ*), that Cabanis †, Van der Hoeven ‡ and other writers have proposed to embrace them in the same natural family. Without assenting to this, I admit that the two groups of birds are very nearly allied, and must be placed next to each other, and that there are certain forms (such as *Tityra*, *Pachyrhamphus*, *Querula*, &c.) which seem to share the characters of both the families.

The Tyrant-birds of the New World then, assuming their distinctness from the Fruit-eaters, form a very extensive group, embracing numerous genera and species, at present very imperfectly known, and exceedingly difficult to distinguish and classify, owing to their uniform colouring and great general resemblance. As, however, is the case in many other difficult groups, much assistance may be derived by paying attention to their geographical distribution, the species of *Tyrannidæ*, as of other Neogean families, being, with some few exceptions, rather restricted in their range, and those of one zoological region being generally distinct from those of another.

Professor Baird, in his 'General Report upon N. American Ornithology,' has given an elaborate analysis of the species of

---

* Ueber den bisher unbekannten typische Verschiedenheiten der Stimmorgane der Passerinen. Abh. Akad. Berlin, 1845, p. 321.

† Ornithologische Notizen, Wiegmann's Archiv, 1847, p. 232.

‡ Handbook of Zoology (English edition), ii. p. 475.

Tyrannidæ which are found in the United States. My present object is to bring together the names of such as have occurred to me in several collections formed in Mexico, which I have lately examined, and such as have been recorded by other writers as found within the limits of the Mexican Confederation.

I am at present inclined to divide the *Tyrannidæ* into four subfamilies.

1. *Attilinæ*, consisting of the few members of the genus *Attila*, Lesson (including *Dasycephala*, Sw.), and their allies, which seem to form a connecting link between the *Formicariidæ* (with which they are arranged by Cabanis, Burmeister, and others) and the *Tyrannidæ*. They are, I believe, terrestrial in their habits. Their typical colouring is rufous.

2. *Tæniopterinæ*—a very distinct division of the family, recognized as such by G. R. Gray, Bonaparte, and indeed almost all writers. They are eminently terrestrial in their habits, and most abundant in the southern portion of the South American continent, inhabiting the open pampas, seashores, and sides of the rivers. Their typical *ptilosis* is black and white, scarcely one olive-green species being found amongst them. The sexes are often differently coloured in this group.

3. *Tyranninæ*, the most numerous group in species, embracing the typical wood-loving Tyrants, very varying in form when carefully studied, but nearly all clothed in the same olive-green and yellow dress, sometimes passing into rufous. The sexes in this division are, with but few exceptions, coloured alike.

4. *Platyrhynchinæ*, a division formed by Dr. Cabanis for the wide-billed birds belonging to the genera *Platyrhynchus*, *Todirostrum*, &c., mostly of small size, and distinguished by the usual absence of rictal bristles, and the shorter wings and long and slender tarsi. They are, I believe, exclusively arboreal in their habits, and in colouring do not depart from the type of the *Tyranninæ*, from which I am doubtful if they are really separable as a subfamily.

Birds of all these four supposed subfamilies occur within the limits of the Mexican Confederation. I now proceed to notice those species of which I have myself seen Mexican specimens.

I. ATTILINÆ.

1. ATTILA CITREOPYGIUS (Bp.). *Dasycephala citreopyga*, Bp. Compt. Rend. xxxviii. p. 657; Notes Orn. p. 86; Sclater, P. Z. S. 1857, p. 227, et 1859, p. 41.

Hab. S. Mexico, Vera Cruz and Playa Vicente (Boucard), and southwards to Guatemala and Nicaragua.

Mus. P. L. S.

II. TÆNIOPTERINÆ.

2. SAYORNIS NIGRICANS, Sclater, P. Z. S. 1856, p. 296. *Tyrannula nigricans*, Sw. Phil. Mag. 1827, p. 367; Baird, Rep. p. 183.

Hab. S. Mexico, Cordova (Sallé); northern provinces (Couch).

Mus. P. L. S.

The aquatic habits of the birds of this group (see Fraser in P. Z. S. 1858, p. 457, and Salvin, *antea*, p. 119), as well as their close alliance with *Ochthoëca*, induce me to arrange them here.

3. SAYORNIS PALLIDA, Sclater, P. Z. S. 1857, p. 204. *Tyrannula pallida*, Sw. Phil. 1827, p. 367. *M. saya*, Bp. *Sayornis sayus*, Baird, Rep. p. 185.

Hab. Whole of Mexico, Jalapa (Boucard).

Mus. P. L. S.

III. TYRANNINÆ.

4. SCAPHORHYNCHUS MEXICANUS, Lafr. Rev. Zool. 1851, p. 473; Sclater, P. Z. S. 1857, p. 204.

Hab. S. Mexico, Jalapa (Boucard & de Oca); Orizaba (Botteri).

Mus. P. L. S.

5. PITANGUS DERBIANUS, Sclater, P. Z. S. 1856, p. 297. *Saurophagus derbianus*, Kp. P. Z. S. 1851, p. 44, pl. 36. *S. sulphuratus*, Gambel, Journ. Acad. Phil. i. p. 39.

Hab. S. Mexico, Cordova (Sallé); Jalapa (de Oca).

Mus. P. L. S.

6. MYIODYNASTES LUTEIVENTRIS, Sclater, P. Z. S. 1859, p. 42. *Tyrannus audax*?, Sclater, P. Z. S. 1856, p. 297.

Hab. S. Mexico, Cordova (Sallé); Orizaba (Botteri); Jalapa (de Oca).

Mus. P. L. S.

7. Tyrannus intrepidus (Vieill.). *T. carolinensis*, Baird, Rep. p. 171; Sclater, P. Z. S. 1858, p. 302; Sw. Phil. Mag. 1827, p. 368.

Hab. Whole of Mexico; table-land (Sw.); Playa Vicente (Boucard).

8. Tyrannus vociferans, Sw. Quart. Journ. Sc. 1826, p.273; Baird, Rep. p.174. *Tyrannus cassinii*, Baird, Rep. p.175.

Hab. Northern Mexico (Kennerly); Oaxaca (Boucard); and southwards to Guatemala.

Mus. P. L. S.

9. Tyrannus couchii, Baird, Rep. p. 175.

Hab. North-eastern Mexico (Couch); Orizaba (Botteri).

Mus. P. L. S.

I have a specimen, collected by Botteri, which I refer, rather doubtfully, to this species.

10. Tyrannus melancholicus, Vieill.; Sclater, P. Z. S. 1856, p. 297; Baird, Rep. p. 176.

Hab. S. Mexico, Cordova (Sallé); Orizaba (Botteri); Jalapa (de Oca); and southwards to Guatemala and S. America.

Mus. P. L. S.

A common S. American species, and of exceptionally wide distribution.

11. Tyrannus crassirostris, Sw. Quart. Journ. Sc. xx. p.273 (1826).

Hab. Maritime and table-lands (Sw.); Mazatlan (Verreaux).

Mus. P. L. S.

12. Milvulus monachus, Hartl. R. Z. 1844, p. 214. *M. tyrannus*, Sclater, P. Z. S. 1856, p. 297; Baird, Rep. p. 168.

Hab. S. Mexico, Plains of Vera Cruz (Sallé); Playa Vicente, Oaxaca (Boucard); and southwards to Guatemala and Honduras.

Mus. P. L. S.

13. Milvulus forficatus (Gm.); Bp. Am. Orn. pl. 2. fig. 1; Sclater, P. Z. S. 1857, p. 204; Baird, Rep. p. 169.

Hab. Whole of Mexico, Jalapa (Boucard); Texas and N. Mexico (Lieut. Couch); and southwards to Guatemala and Honduras.

14. Myiarchus crinitus (Linn.); Baird, Rep. p. 178.

I have not yet seen this species from Mexico, but, as it extends to Guatemala (*antea*, p. 121), there can be no doubt of its occurrence there.

15. Myiarchus cooperi, Kaup, P. Z. S. 1851, p. 51; Baird, Rep. p. 180.

Hab. Mexico, Oaxaca (Boucard), and southwards to Guatemala.

Mus. P. L. S.

16. Myiarchus lawrencii. *Tyrannula lawrencii*, Giraud, B. Texas, pl. 2. *Myiarchus mexicanus*, Sclater, P. Z. S. 1856, p. 296; Baird, Rep. p. 181.

Hab. Whole of Mexico, Cordova (Sallé); Orizaba (Bott.); Jalapa (de Oca); New Leon (Couch).

Mus. P. L. S.

17. Myiarchus cinerascens (Lawr.). *Tyrannula cinerascens*, Lawr. *M. mexicanus*, Baird, Rep. p. 179.

Hab. Whole of Mexico; Coahuile (Couch); Playa Vicente (Boucard); and southwards to Guatemala.

Mus. P. L. S.

18. Myiarchus fuscus (Gm.). *Sayornis fusca*, Baird, Rep. p. 184.

Hab. Mexico, Jalapa (de Oca).

Mus. P. L. S.

19. Contopus borealis (Sw.); Sclater, P. Z. S. 1858, p. 301. *Tyrannus cooperi*, Sclater, P. Z. S. 1856, p. 297.

Hab. Whole of Mexico, Cordova (Sallé); Parada, Oaxaca (Boucard).

Mus. P. L. S.

20. Contopus mesoleucus, Sclater, P. Z. S. 1859, p. 43.

Hab. S. Mexico, Orizaba (Bott.), and southwards to Guatemala.

Mus. P. L. S.

21. Contopus sordidulus, Sclater, P. Z. S. 1859, p. 43.

Hab. S. Mexico, Orizaba (Bott.), and southwards to Guatemala.

Mus. P. L. S.

22. Contopus virens (Linn.): Baird, Rep. p. 195.

Hab. Mexico, and southwards to Guatemala.

Mus. P. L. S.

23. Empidonax brachytarsus, sp. nov.

Obscure cineraceus, pileo alis et cauda saturatioribus, uropygio olivaceo vix tincto: tectricibus alarum minoribus et majoribus et secundariis extus ad apicem sordido albo stricte marginatis: subtus dilutior, gula albicante, ventre medio flavicante: tectricibus subalaribus rufescente vix tinctis: rostro superiore corneo, inferiore flavido, pedibus nigris: long. tota 5·3, alæ 2·9, caudæ 2·4, rostri a rictu 5·5, tarsi 5.

Hab. In Mexico Merid.; Cordova (Sallé), et Santecomapam.

Mus. P. L. S.

I have two specimens of this little bird in my cabinet, one of them being from M. Sallé's first collection made at Cordova, and the other received from M. Verreaux. Its general appearance is more that of a *Contopus*, with which it also agrees in its short tarsi; but its much shorter wings induce me to arrange it with *Empidonax*, placing it next to *Empidonax traillii* of the U.S., which has also short tarsi. The wings are rather longer than in *E. traillii*, the second quill being longest, the third and fourth slightly diminishing in length, and the fifth longer than the first. The greenish tinge on the rump is hardly perceptible.

24. Empidonax pusillus (Sw.): *Platyrhynchus pusillus*, Sw. Phil. Mag. 1827, p. 366?; Baird, Rep. p. 194.

Hab. Northern Mexico, Los Nogales (Kennerly).

25. Empidonax minimus, Baird, Rep. p. 195.

Hab. Whole of Mexico, Orizaba (Bott.): Oaxaca, Playa Vicente and Talea (Boucard).

Mus. P. L. S.

26. Empidonax flaviventris, Baird, Rep. p. 198.

Hab. Whole of Mexico, Jalapa (de Oca).

Mus. P. L. S.

27. EMPIDONAX BAIRDI, Sclater, P. Z. S. 1858, p. 301.

Hab. Southern Mexico, Cordova (Sallé); Oaxaca (Boucard).

Mus. P. L. S.

28. MITREPHORUS PHÆOCERCUS, Sclater, P. Z. S. 1859, p. 44: *Tyrannula* (sp. 104), Sclater, P. Z. S. 1856, p. 296: *Empidonax* sp., Sclater, P. Z. S. 1858, p. 302. (Plate XIV. fig. 2.)

Hab. Whole of Mexico, Cordova (Sallé); Orizaba (Botteri); La Parada, Oaxaca (Boucard).

Mus. P. L. S.

I now figure this common Mexican species, for which, after vainly attempting to fit it in in two or three places, I was compelled to invent two new names. Its rich brown under surface will render it easily recognizable among its Mexican brethren, its only near ally being the next species, *M. fulvifrons,* which is much paler and more buffy below.

29. MITREPHORUS FULVIFRONS (Giraud): Sclater, P. Z. S. 1859, p. 44: *Muscicapa fulvifrons,* Giraud, B. Texas, pl. 2. fig. 2: *Empidonax fulvifrons,* Sclater, P. Z. S. 1858, p. 301.

Hab. S. Mexico, Oaxaca (Boucard).

Mus. P. L. S.

30. PYROCEPHALUS MEXICANUS, Sclater, P. Z. S. 1859, p. 45: *Tyrannula coronata,* Sw. Phil. Mag. 1827, p. 367: *P. rubineus,* Sclater, P. Z. S. 1856, p. 296.

Hab. Whole of Mexico, Cordova (Sallé), and southwards to Guatemala and Honduras.

Mus. P. L. S.

31. MYIOBIUS SULPHUREIPYGIUS. *Tyrannula sulphureipygia,* Sclater, P. Z. S. 1856, p. 296.

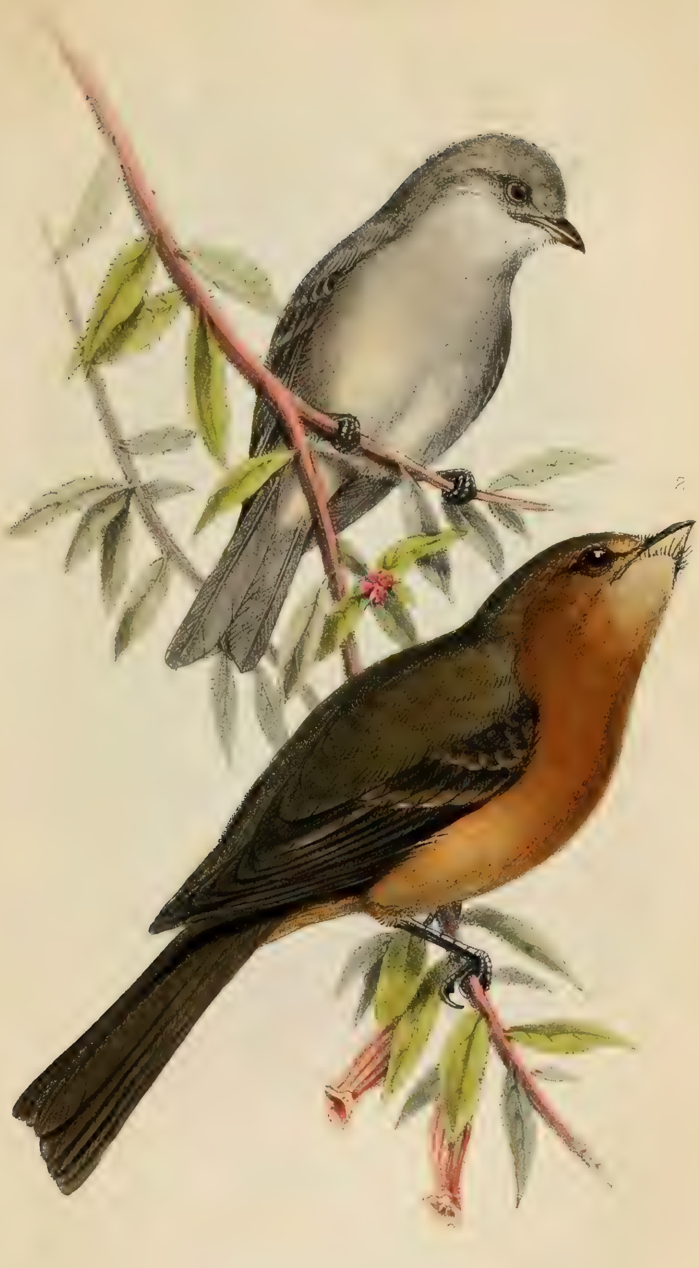
Hab. S. Mexico, Cordova (Sallé).

Mus. P. L. S.

32. LEGATUS VARIEGATUS. *Elænia variegata,* Sclater, P. Z. S. 1856, p. 297; Ibis, 1859, p. 123.

Hab. S. Mexico, Cordova (Sallé); Jalapa (de Oca); Oaxaca, Playa Vicente (Boucard); and southwards to Guatemala.

Mus. P. L. S.



[illegible] Stannard & Dixon.

1. [illegible]
2. MITREPHORUS PHÆ[illegible]

33. MYIOZETETES TEXENSIS, Sclater, P. Z. S. 1859, p. 45: *Musc. texensis*, Giraud, B. Texas, pl. 1: *Tyrannula cayennensis*, Sw. Phil. Mag. 1827, p. 367.

Hab. Whole of Mexico, Cordova (Sallé); Jalapa (de Oca).

Mus. P. L. S.

34. ELAINIA PLACENS, Sclater, P. Z. S. 1859, p. 46; Ibis, 1859, p. 123, pl. iv. fig. 2: *Elænia* (sp. 113), Sclater, P. Z. S. 1856, p. 297.

Hab. S. Mexico, Cordova (Sallé), and southwards to Guatemala.

Mus. P. L. S.

IV. PLATYRHYNCHINÆ.

35. MUSCIVORA MEXICANA, Sclater, P. Z. S. 1856, p. 295, et 1859, p. 300.

Hab. S. Mexico, Cordova (Sallé); Oaxaca (Boucard), and southwards to Guatemala.

36. CYCLORHYNCHUS BREVIROSTRIS, Cab. Orn. Notiz. in Wiegm. Arch. 1847, p. 249; Sclater, P. Z. S. 1856, p. 296.

Hab. S. Mexico, Cordova (Sallé).

Mus. P. L. S.

37. CYCLORHYNCHUS CINEREICEPS, sp. nov.

Læte olivaceus, pileo et nucha cineraceis, loris et oculorum ambitu albis: alis et cauda brunnescenti-nigris, extus flavo stricte marginatis: subtus pallide cineraceus, abdomine toto citrino-flavicante, lateribus olivaceo indutis, tectricibus subalaribus pallide citrinis: rostro superiore corneo, inferiore albido, pedibus pallide corylinis: long. tota 5·3, alæ 2·5, caudæ 2·4, rostri a rictu 0·7, tarsi 0·7.

Hab. In Statu Oaxaca, reipubl. Mex. (Boucard).

Mus. P. L. S.

A recent collection from M. Boucard submitted to my examination by M. Sallé contains this species, which is the Mexican representative of the S. American *C. sulphurescens*, as *C. brevirostris* is of *C. olivaceus*. It is easily distinguished, however, from the southern bird by its pure cinereous cap and pale grey throat.

I have now specimens of the following species of this group:

(1) *C. olivaceus*, ex Brasil.; (2) *C.* sp.? probably new, ex fl. Amazonum sup.; (3) *C. brevirostris*, ex Mexico; (4) *C. sulphurescens*, ex Brasil., fl. Amaz., et Nova Grenada; (5) *C. schistaceiceps*, ex Mexico; (6) *C. flaviventris*, ex Brasil., fl. Amaz., et Nov. Grenada; (7) *C. ruficauda* (Spix), ex Cayenna et fl. Amazon.

The last-named bird is rather aberrant in form.

38. Todirostrum cinereum (Linn.); P. Z. S. 1857, p. 203.

Hab. S. Mexico, Santecomapam (Boucard), and southwards to Mexico and Guatemala.

39. Todirostrum schistaceiceps, sp. nov.

Olivaceo-viride, pileo toto cum nucha obscure schistaceis: macula ante-oculari alba: alis nigris, flavicante extus limbatis; cauda nigra, olivaceo extus limbata: subtus cinerascenti-album, gutture albescentiore, ventre medio lactescenti-albo, lateribus flavescentibus: campterio flavo, tectricibus subalaribus pallide citrinis; rostro nigro, tomiis pallidis; pedibus pallide corylinis: long. tota 3·5, alæ 1·9, caudæ 1·2, rostri a rictu 6·5, tarsi 0·75.

Hab. In Statu Oaxaca, reipubl. Mexicanæ (Boucard).

Mus. P. L. S.

This new *Todirostrum* is the only species that I have seen from the country north of Panama besides *T. cinereum* and the next aberrant bird, of which it will probably be necessary to form a separate division. I am now acquainted with more than twenty species of this group, but none of them much resemble the present bird in coloration.

40. Todirostrum cinereigulare, Sclater, P. Z. S. 1856, p. 295.

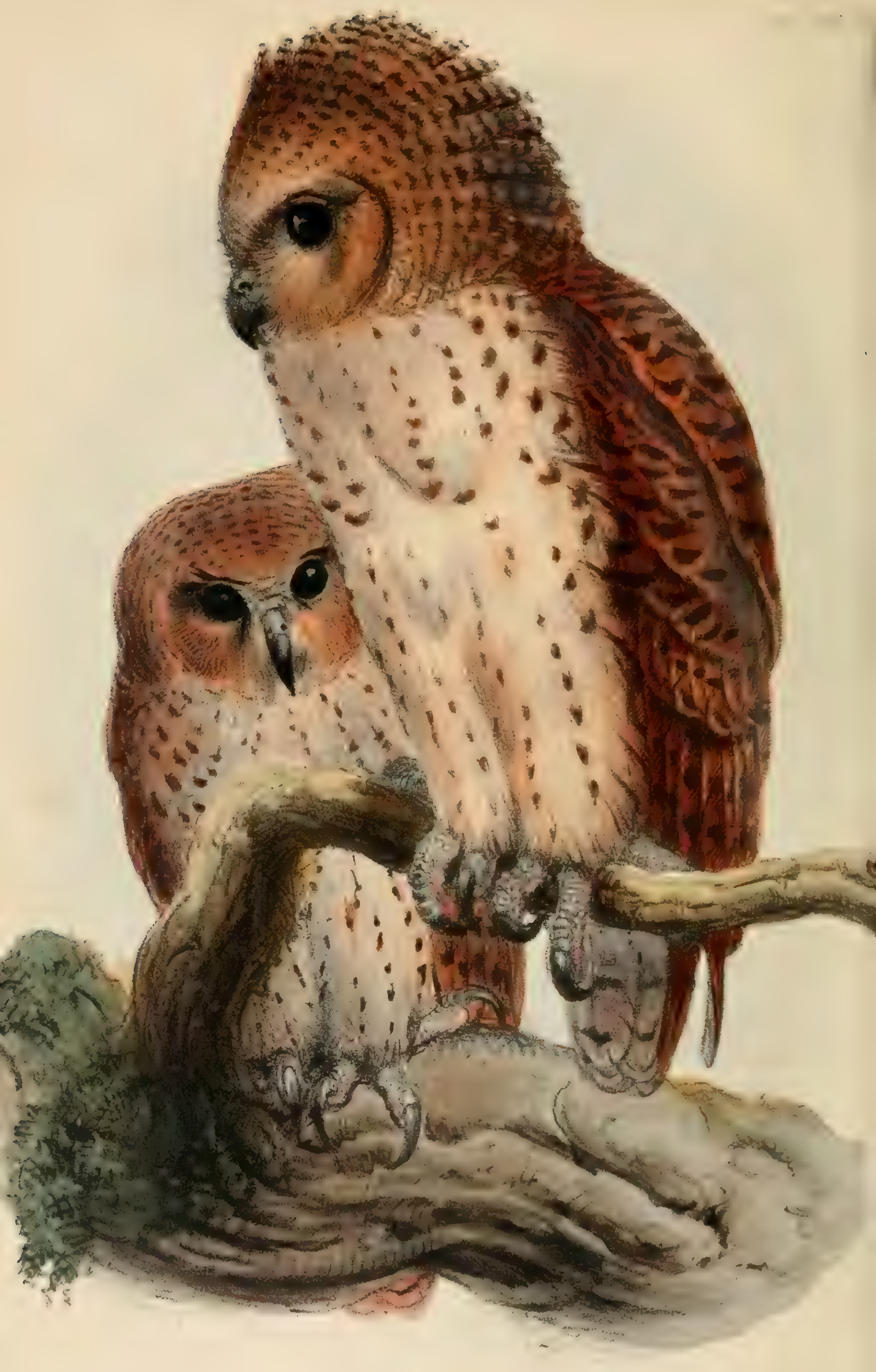
Hab. S. Mexico, Cordova (Sallé).

Mus. P. L. S.

41. Camptostoma imberbe, Sclater, P. Z. S. 1857, p. 203. (Plate XIV. fig. 1.)

S. Andres Tuxtla, Vera Cruz (Boucard).

I here give a figure of this singular little bird from M. Sallé's type specimen, which is in my cabinet. I have not yet met with a second example. I have pointed out its peculiar characteristics in my original description referred to above. Its short



[illegible] Hanhart

wings, much compressed bill, and short tarsi, render it very distinct from *Todirostrum*, and this is certainly not its natural place. It seems to be more nearly allied to *Tyrannulus* and *Elainia.*

42. Platyrhynchus cancroma (Licht.), Sclater, P. Z. S. 1856, p. 295.

Hab. S. Mexico, Cordova (Sallé).

I am not quite certain of the identity of this bird with the South American species.

43. Mionectes assimilis, Sclater, P. Z. S. 1859, p. 46: *M. oleagineus*, Sclater, P. Z. S. 1856, p. 296.

Hab. S. Mexico, Cordova (Sallé), and southwards to Guatemala.

Mus. P. L. S.

I possess examples of all the above species except *Muscivora mexicana*, and *Mexican* specimens of all those I have marked as in my collection, upon the authenticity of which I can rely. My collection of *Tyrannidæ* now numbers nearly 400 examples, and I hope shortly to be able to publish a revision of the whole group.

XLV.—*Note on Pel's Owl* (Scotopelia peli). By John Henry Gurney, M.P., F.Z.S.

(Plate XV.)

Having lately been most liberally presented with a living specimen of this extremely rare Owl by Colonel O'Connor, C.B. (Lieut.-Col. 1st W. I. Regt.), by whom it was recently brought from the River Gambia, I have requested Mr. Wolf to draw the bird from the life; and as the species has, I believe, not been previously figured, I trust that the accompanying Plate (Pl. XV.) will prove an acceptable contribution to the pages of "The Ibis."

The late Prince C. L. Bonaparte, in p. 44 of his 'Conspectus Generum Avium,' gives the following concise but comprehensive notice of this species :—

"Genus 112.

"Scotopelia*, Bp. *Permagna : plumæ auriculares nullæ : tarsi digitique nudi.*

"Strix Peli, Temm. Mus. Lugd. *Figura nulla. Ex Ashantee. Longit. 22 pollicar. : rufo-cinnamomea nigro undulata ; subtus dilutior, maculis nigris paucis : tarsis digitisque flavis.*"

This description applies very well to my specimen, except that the transverse markings on the upper part and the spots on the lower part of the bird are not of a true black, but are, more properly speaking, of a dark brown, varying from the other portions of the plumage rather in intensity of hue than in actual difference of colour. My specimen also differs from the description in the 'Conspectus' in the colour of the tarsi and feet, which are a dirty white with a tinge of bluish-pink. The talons are a very light horn-colour, with a tinge of dull blue. The cere is a bluish lead-colour, and darker than the talons. The bill is similar in colour to the cere, but much darker, except towards the tip. The irides are an extremely dark brown. The bill is very powerful, and more prominent than in most other Owls ; the talons are also of remarkably formidable dimensions.

This Owl, since it has been in my possession, has evinced a tendency to nocturnal habits, seeking the shelter of a hollow tree, with which I have provided it, and seldom feeding much till the approach of twilight. The food which it has preferred since it has been in my keeping has consisted of rats and raw fish, of both of which it partakes freely.

I understand that the bird is now in its second year. It is very tame, and has evidently been well cared for, as will be seen by the following interesting memorandum, with which Col. O'Connor has favoured me respecting it. It will be observed that the Owl is there spoken of under the name of "Nero," which it bore while in Col. O'Connor's possession. The Eagle which is referred to in the memorandum was also most liberally presented to me by Col. O'Connor, but it having unfortunately died before I received it, I am unable to say to what species it belonged.

---

* The derivation of this curious generic name I believe to be σκότος *caligo* and πέλεια *columba* (with a covert allusion to the specific name),—although the formidable bill and talons of the bird give it anything but a *dove-like* appearance.—Ed.

With reference to the habitat of "Ashantee" assigned to this species by Prince C. L. Bonaparte, it is proper to observe, that Dr. Hartlaub, in his work 'On the Birds of West Africa' (p. 18), refers to the specimen in the Leyden Museum as having been brought from Rio Boutry. Other specimens from the River Camma are mentioned in Mr. Cassin's list of birds collected by M. Duchaillu, in the 'Proceedings of the Academy of Natural Sciences of Philadelphia' for the present year, p. 32. Besides these, the subject of the present notice is, I believe, the only other individual of this species the occurrence of which has as yet been recorded. The Barra Country, from which it was obtained, is stated in 'Fullarton's Gazetteer' to lie "on the north bank of the Gambia, extending about 18 leagues along the coast, with a breadth of 14 leagues," and is therefore considerably to the north of the localities from which the two previous specimens were obtained.

Catton Hall, Norwich,
27th Sept. 1859.

Memorandum by Col. O'Connor, C.B., Lieut.-Col. 1*st W. I. Regt.*

"Sketch of Nero, the Owl, a 'Feetish Bird,' from the River Gambia, Western coast of Africa.

"During seven years' exploration of Western Africa, I only met one of the species of the Owl 'Nero.' He was brought 'a chicken' full of pen-feathers, or rather down, of a delicate straw-colour, and very thick, from a lagoon in the Barra Country. No native would admit 'Nero' as a visitor; and when the bird was installed in Government House, the servants and head people came in a body to remonstrate, asserting 'he was a Gumbi owl, a 'Feetish'!!!, and would destroy and kill whatever object he looked on.' The chief groom (an old soldier, who had charge of the poultry) insisted that 'every cock and hen would go dead.' Strangely enough, an epidemic broke out, and carried off fifty to sixty head of fowls; and each day the groom placed the defunct birds on the steps of Government House to meet the eye of Mrs. O'Connor, seeming to exult in the mortality amongst the feathered tribe. 'You see wid your own eye, Missus, dat Debil Jumbi bird, he go kill all de fowls: Governor tink he hab long head, but he no sabey owl: suppose you put him in de stable, he see Nelly (Mrs. O'Connor's favourite mare); de horse he go tumble down dead.' Death at last ceased to reign amongst the poultry population, and Nero became my principal pet; he ranged over the Piazza, perching on the branch of a tree; he was fed regularly by the orderly on roasted fish, but he often came to the dinner-table and flew down for scraps of meat, bread-and-butter, which he took gently from myself or Mrs. O'Connor, permitting us to rub his head, crest, neck and back, seemingly enjoying the caressing. But he would snatch meat or bones from the cat or dog, and when the eagle was introduced into his company, he beat him in a most unmerciful manner away from his peculiar and original portion of the Piazza,—the eagle being one of the fiercest and most pugnacious of African birds, brought from the upper part of the Gambia River near 'Wallie,' and, when in vigour, able to carry away a kid or small lamb. Nero luxuriated in a tub of water, frequently washing himself and perching on the rim until dry. He was wont to go out to the garden or fields, where instantly an immense commotion arose among all the birds: the larger ones flew round the owl, keeping a very civil distance—the smaller birds flew away; but Nero treated both alike with sovereign contempt; he would return of his own accord to the roosting-place in the Piazza, and when put out and confined for some days, rejected all food, and pined until restored to his perch. With me he was as tame as any canary, and after an absence of two months recognized my voice when I went to his cage, at Oatlands (Devon), appearing much pleased by my taking him out for a walk on the grass. Many natives from the interior told me 'they had not seen such a bird before; but they considered him *unlucky*.' I really think Nero is nearly *sans* any relations, and certainly devoid of all friends in Western Africa.

"L. S. O'CONNOR."

"St. Mark's House, Jersey,
Sept. 13, 1859."

XLVI.—*Letter from* Mr. Wallace *concerning the Geographical Distribution of Birds.*

Batchian, March 1859.

My dear Mr. Sclater,—Your paper on "The Geographical Distribution of Birds"* has particularly interested me, and I hope that a few remarks and criticisms thereon may not be unacceptable to you. With your division of the earth into six grand zoological provinces I perfectly agree, and believe they will be confirmed by every other department of zoology as well as by botany. On the number of species you give to each province I can say nothing, you being in so much better a position than myself for arriving at a correct conclusion; but in the *areas* of the several provinces I believe you have made some very important errors, which of course affect materially the proportionate richness in species of the several provinces. These I will take the liberty of pointing out, as well as of defining, as closely as possible, the limits of each division.

1. The Palæarctic Region I would extend over all Africa north of the great Desert, for I think none of the peculiar forms of Tropical Africa are found there. For its southern limits further eastwards I take the parallel of 30° N. lat. as an average from Suez to the east boundary of Afghanistan, then turning north, to exclude the Punjaub, follow the Himalayas to Birmah, then bend a little south, and then north again to where the 30th parallel crosses the Yung-ling Mountains on the west of China, and follow the same parallel across China to Chusan. This is, I think, as fair a give-and-take as can be chosen with our imperfect knowledge. Now for the area:—

	Square miles.
Continental Europe and Asia	14,850,000 (Humboldt.)
Deduct Continental part of "Regio Indica" (Arabia=North Africa)..................	2,630,000
	12,220,000
Add for islands	280,000
Total area of Palæarctic Region	12,500,000

—instead of 14,000,000 given by you.

2. Æthiopian Region. In this you make a very large area,

---

* See Journ. Proc. Linn. Soc. ii. p. 130.

which must certainly be a mistake. You give 12,000,000 square miles. Now Balbi gives only 8,500,000 for all Africa and Madagascar; and, if we estimate the part of Arabia taken from Asia as equal to the part of Africa given to Europe, this will be the true area. But I would suggest that such an anomalous tract as the Sahara coming between two regions should be given to neither; it should in fact be considered as a *Sea*. It is certainly quite as unproductive of animal life as the sea, perhaps more so; and it gives quite an erroneous idea of the productiveness of Tropical Africa to add this immense desert to it. I take, therefore, Africa south of the Sahara, and after reaching the Nile as far north as the 1st Region, following a diagonal across Arabia from Mount Sinai to the eastern extremity. A careful measurement gives me the area of this with Madagascar as 6,500,000 square miles.

3. INDIAN Region. Of this we have already defined the north limit, and I would add a tract of Arabia on the western shores of the Persian Gulf. Its south-eastern limits I draw between the islands of Bali and Lombok, and between Celebes and Borneo, and the Moluccas and the Philippines. Barbets reach Bali, but not Lombok; *Cacatua* and *Tropidorhynchus* reach Lombok, but not Bali: this I think settles that point. *Cacatua, Trichoglossus,* and *Scythrops* in Celebes, and not in Borneo, settle the other. No doubt many Indian forms reach Celebes; but we must remember the proximity, and in the course of ages the only wonder is there has not been more intercommunication. A careful estimate of these islands, with Formosa, &c. added to the continental portions, gives an area of only 3,100,000 square miles.

4. AUSTRALIAN Region. You have rather over-estimated this: with the Moluccas, &c., North Guinea, New Zealand, and the Pacific Islands (except the Sandwich, which I think should go with America), I cannot make an area of more than 2,600,000 square miles. In the island of Batchian I have found *Podargus, Coriphilus,* and *Paradisea*, which shows that the several subdivisions of this region are very closely connected.

5 and 6. NORTH and SOUTH AMERICAN Regions. I put the limit between these at 22° N.; on the coast it may be further north, on the table-land further south, but this will be near the

mean. This gives for the North American region 5,500,000 square miles, South American region with West Indies 5,600,000 square miles, making a total which agrees with Balbi.

Now, taking my corrected areas and your number of species, the proportionate richness or square miles to each species is as follows :—

Zoological Regions.	*Proportionate richness.*	
	WALLACE.	SCLATER.
1. Palæarctic, area 12,500,000, sp. 650	$\frac{1}{19,200}$	$\frac{1}{21,000}$
2. Æthiopian, area 6,500,000, sp. 1250	$\frac{1}{5200}$	$\frac{1}{9600}$
3. Indian, area 3,100,000, sp. 1500	$\frac{1}{2050}$	$\frac{1}{2600}$
4. Australian, area 2,600,000, sp. 1000	$\frac{1}{2600}$	$\frac{1}{3000}$
5. North American, area 5,500,000, sp. 660	$\frac{1}{8300}$	$\frac{1}{9000}$
6. South American, area 5,600,000, sp. 2250	$\frac{1}{2500}$	$\frac{1}{2400}$

From the above estimate it results that the Indian region is in proportion to its area the richest in species of birds, and, when we consider how much less known it is than South America, we may expect that the proportion will increase. In Birmah, Cochin China, and China, the ornithology of extensive regions is absolutely unknown; while in South America there is scarcely a spot which has not been repeatedly and thoroughly explored. Though no one is more profoundly impressed than myself with the vast and inexhaustible riches of South America in every department of natural history, and pre-eminently in birds, yet I am also convinced that a considerable portion of its great apparent superiority to all other countries is due to the universal spread of the Spanish and Portuguese races over every part of its vast interior, which is thus absolutely as free as Europe to the researches of naturalists, who have not been slow to take advantage of it. No other part of the Tropical world is in this condition. In three-fourths of the African and Indian regions, the naturalist only penetrates at the risk of his life ; and, even where this is safe, I can speak from personal experience of the great difference between these regions and those of South America as to the inducements to a traveller to prolong his stay. In these countries we have absolutely no community of ideas, feelings, or wants with the population; whereas, even in the most remote districts of South America, one is always in contact with men of European race and feelings, and with at least a remnant of the usages and wants of European civilization. South America too possesses a physical superiority to every other region, which would lead us to expect a vast richness in its natural productions. Nowhere else in the Tropics are such vast and fertile alluvial plains, such mighty forests, such gigantic rivers, such an extensive and lofty range of mountains. There is no such compact mass of intertropical land as South America. There is no mountain range but the Andes, both sides of which are in the Tropics. This long succession of temperate plateaux, together with the southern extremity of South America, adds immensely to the diversity of its fauna, combining in fact all the varied physical features and stations of the Old World in a space of barely one-fifth its extent. It thus happens that in many cases the natural productions of South America will bear comparison not only with any *one* of the other regions, but with all the rest of the world, especially if we leave out Australia as an altogether peculiar region, having no more connexion with the old than with the new continent.

There is perhaps no fact connected with geographical distribution more extraordinary, and at first sight inexplicable, than the division of such an apparently homogeneous tract as the Indian Archipelago between two provinces which have less in common than any other two upon the earth. To the geographer and geologist, there is absolutely nothing to mark the division between the two regions.

Borneo differs more from Java than does the former from Celebes, or the latter from Timor. The Philippines strikingly resemble the Moluccas in their physical features; Borneo has much resemblance to New Guinea, yet their zoological productions differ greatly. Between the Indian and Australian zoological regions, as above defined, I believe there is absolutely no true transition—that is, no *species* are common to the two, which we cannot easily account for by the various accidents and migrations which in the course of ages must have tended to mingle the productions of islands so close to each other. I believe that these two regions are as absolutely distinct as South America and Africa, and it is only because they are separated by straits of from 20 to 100 miles wide, instead of the Atlantic, that they have become slightly connected by the interchange of a few species and genera.

Thus I account for *Gallus* reaching Celebes and Sumbawa, for *Cervus* in the Moluccas, *Megapodius* in North-western Borneo, a Woodpecker in Celebes, &c. There is, however, an important physical feature which gives us the true key to the separation of the two regions: it is, that the islands of the Indian region are all connected by a shallow sea, while they are separated from the Australian region by an unfathomable ocean. Of this connexion to the Philippines I am not certain, except as far as Palawan, which is joined to Borneo by a 50-fathom bank. Mindanao is also closely connected by islands to Borneo.

Now look at the map of the Archipelago, and consider that Borneo and Java have species in common by hundreds, Borneo and Celebes only by *units*, and we shall be forced to believe that the two former have been connected at no very distant epoch, while the two latter have been ever separated, or at least during a long geological epoch, and probably more widely than at present. Here then is the key to the problem:—Sumatra, Java, Borneo, and the Philippines are parts of Asia broken up at no distant period (an elevation of 50 fathoms would in fact join them all again); Celebes, Timor, the Moluccas, New Guinea, and Australia are remnants of a vast Pacific continent in part marked out by coral islands (see Darwin), but broken and separated at a more distant period, as shown by the fewer species common to the several islands, and the number of distinct subfaunas into which the region is divided. Celebes is in some respects peculiar, and distinct from both regions, and I am inclined to think it represents a very ancient land which may have been connected at distant intervals with both regions, or perhaps with some other continent forming a direct connexion with Africa. It may also at one time have had a connexion with the Philippines. All this is indicated by a peculiar genus of Ruminants in Celebes (*Anoa*); by a genus of Apes found in Celebes, the Philippines, and Batchian, more nearly allied to the African

Baboons than to any of the Archipelagian species; by the extraordinary *Babirusa* of Celebes, a type of more African than Indian form, and by several anomalous and peculiar birds and some *Hymenoptera* of Celebes determined by Mr. Smith to be identical with African, as others with Indian and Chinese species. Here is a wide and most interesting field of research, in which I have long been working, and which I hope by the assistance of my collections to do much to elucidate.

XLVII.—*Recent Ornithological Publications.*

1. English Publications.

Mr. Gould has issued the whole of the parts of the magnificent series of works upon which he is now engaged, for the present year. We have already noticed the 11th part of the 'Birds of Asia.' Of the 'Humming Birds,' Numbers XVII. and XVIII., we need only say, sustain the reputation of the preceding parts. No less than 270 species of these wonderful birds have now been represented; and the two next succeeding parts will, we believe, bring Mr. Gould nearly to the close of his labours.

The third number of the 'Supplement to the Birds of Australia,' whether we regard the beauty and novelty of the species portrayed, or the excellence of the illustrations, is perhaps one of the finest which Mr. Gould has ever issued. The *Malurus coronatus*, *Semioptera wallacii*, the three species of *Nestor*, the *Casuarius bennettii*, and the *Chlamydera cerviniventris* are all birds of very great interest, and it will probably be long ere such a series of splendid novelties is again brought before the public. Many of the species are from localities wide of the Australian mainland, but we agree with Mr. Gould in considering that the islands in which they originate certainly belong to the same primary fauna. The birds represented are—

Malurus coronatus, from N. Australia.
Semioptera wallacii, from Batchian.
Psephotus chrysopterygius, from N. Australia.
Nestor notabilis, from New Zealand (Middle Island).
—— *esslingii*, from New Zealand.
—— *hypopolius*, from New Zealand.

Casuarius bennettii, from New Britain.
Petroica (?) *cerviniventris,* from N. Australia.
Chrysococcyx minutillus, from N. Australia.
Zosterops albigularis, from Norfolk Island.
—— *tenuirostris,* from Norfolk Island.
Spatula variegata, from New Zealand.
Chlamydera cerviniventris, from N. Australia.
Merula poliocephala, from Norfolk Island.
Gelochelidon macrotarsa, from N. Australia.

The first part of the 'Illustrated Proceedings of the Zoological Society' for 1859 was published some time ago, and the second part, containing all papers read up to the end of the last meeting (June 28th), will be ready in a few days. The papers on Ornithology in the 'Proceedings' are many and voluminous, and the system now adopted by the Society of issuing them in parts renders the information concerning the many interesting novelties, which are continually brought before their scientific meetings, readily available to the public. The part of the 'Transactions' recently published (vol. iv. part 6) also contains several papers on Ornithology, namely by the late W. J. Broderip and the late H. E. Strickland on subjects connected with the Natural History of the Dodo; by Dr. Kaup on the Owls (*Strigidæ*), and by P. L. Sclater on new *Accipitres* belonging to the collection of the Norwich Museum. Mr. Wolf's plates, illustrating the latter subject, are among the most happy of his performances. The 'Report of the Council of the Zoological Society' read at the Anniversary Meeting in April last, gives an arranged list of the animals then living at the Gardens. The number of species of birds exhibited was 317, namely—

Natatores	51	Columbæ	17
Grallatores	39	Scansores	79
Struthiones	7	Insessores	55
Gallinaceæ	26	Raptores	43

Mr. Bree's first volume of 'Birds of Europe not observed in the British Isles' is completed, and the second commenced with Part XVI. We do not believe that *Ixos obscurus* has ever occurred in Europe. See Dr. Hartlaub's remarks in Proc. Zool. Soc. 1858, p. 292. On the other hand, *Turdus ruficollis* certainly has been met with within its limits *, and is very distinct, in our opinion, from *Turdus atrigularis*.

The 'Annals of Natural History' for the last three months contain (p. 96) "Descriptions of four new species of Humming-birds from Mexico," by Mr. Gould—*Amazilia ocai* (!), *Calothorax pulchra*, *Cyanomyia violiceps*, and *C. sordida*, the first discovered by Señor R. M. de Oca, the three latter by M. A. Boucard; and (p. 224) "Descriptions of two new species of American Parrots," by Mr. Sclater, *Conurus holochlorus* from Mexico, and *C. xantholæmus* † from S. Croix.

Mr. Cuthbert Collingwood's 'Comparison between ancient and modern views of the Migration and Habits of Birds ‡,' and 'Fauna of Blackheath and its Vicinity §,' which gives a list of the birds inhabiting that part of the country, are both worthy of notice.

Mr. Edward Vernon Harcourt's 'Sporting in Algeria ||' will be received with pleasure, especially by such of our readers as have visited that country, or are turning their thoughts towards an excursion in that direction. It is an agreeable and interesting book. An Appendix is given of the names of the "Birds of Algeria," concerning which we have already contributed so much information in these pages.

Among much that is of interest in the later numbers of 'The Zoologist,' we must claim particular attention for Mr. Osburn's letters to Mr. Gosse "on the Birds and Bats of Jamaica" (pp. 6587 and 6658). The second species of Mock-bird noticed p. 6591 is likely to be *Mimus gundlachii*, Cab., of Cuba. Of the black Banana-bird described p. 6661, we possess several specimens, and we believe Mr. Osburn is right in considering it 'new to science' ¶.

* 'Naumannia,' 1858, p. 311.

† See *antea*, p. 374.

‡ Liverpool, 1859, 24 pp.

§ London, 1859, 46 pp.

|| London, 1859, 1 vol.

¶ Mr. Osburn's suggested specific term '*nigerrimus*' should therefore

II. French Publications.

The numbers of the 'Revue et Magasin de Zoologie' for May, June, and July contain several articles on Ornithology. In M. O. Des Murs' "Notes sur les dernières espèces de Cephaloptères," an attempt is made to prove that the new and striking species of this singular genus described in our first Number (p. 114), as also Mr. Gould's *C. glabricollis*, are nothing more than different forms of the ordinary species, of which the latter is regarded as the adult male! M. Des Murs appears to be quite unaware that, however badly acquainted the naturalists of France may be with the adult state of *C. ornatus*, we in England know it perfectly well, from the numerous fine-plumaged specimens transmitted to this country by Mr. Hauxwell, and, more recently, by Mr. Bates, from the Amazon and Ucayali. He also seems to have quite overlooked Mr. Wallace's account of the habits of this bird as observed by himself on the Amazons and Rio Negro (Proc. Zool. Soc. 1850, p. 206), published long before M. de Castelnau's imperfect notice, which he regards as the earliest authority on this subject. It would seem almost useless to point out the great difference in the geographical distribution of the three species of *Cephalopterus* in a case where the locality of Mr. Fraser's bird (Pallatanga, at the western base of the Andes of Ecuador) is considered to be the *same* as the Yungas of Bolivia! For us, however, the mere fact of these birds being found upon opposite sides of the Andes, at some thousands of

---

be employed. As a generic name—the form being apparently different from any previously characterized among the *Icteridæ*—we propose that of *Nesopsar*; and the species will therefore stand as *Nesopsar nigerrimus*. (P.L.S.)

Nesopsar, gen. nov. Rostrum rectum, capite vix brevius, subquadratum, compressum, apice acuto, mesorhinio lato et plano, verticem versus extenso: alæ breves, remige secunda, tertia et quarta æqualibus et longissimis, quinta his paulo breviore sed primam excedente: cauda modica, quadrata: pedes validiusculi, tarsis brevibus, ungue postico fortiore.

Typus et sp. unica *N. nigerrimus*.

♂ Niger unicolor, æneo paulum splendens: rostro et pedibus nigerrimis: long. tota 8·0, alæ 4½, caudæ 2·8, rostri a fronte 1·1.

♀ Mari similis, sed paulo minor.

Hab. in ins. Jamaica.

Mus. Bremensi et P.L.S.

miles' distance from each other, would be sufficient to make us very doubtful of the *possibility* of their belonging to the same species. And, as for *C. glabricollis*, M. Des Murs seems to have forgotten that it was in *Veragua*, northwards of the Isthmus of Panama, where this remarkable bird was discovered by the indefatigable Warscewitz. But there can be no doubt that the three *Cephalopteri* are quite distinct species in the ordinary acceptation of the term, though closely allied, and, as is often the case in similar instances, representatives of each other in different zoological regions.

In the sixth number of the 'Revue,' M. Taczanowski gives an interesting account of his observations on the nesting of *Parus pendulinus* as noticed in Poland in the woody marshes on the banks of the Vistula. M. Moquin-Tandon continues his "Notes Ornithologiques" upon the birds of the South of France in the 7th number.

The first part of M. Malherbe's 'Monographie des Pics' has been issued, and gives us every reason to believe that the high expectations we had formed of its value as a scientific work will not be disappointed. The plates are well executed, and will leave no difficulty in recognizing the species of *Picidæ* for the future. We are not yet, however, converts to M. Malherbe's plan of altering established generic names, so as to make them terminate in "*picus*" or "*picoides*," and we had almost hoped that the author would have abandoned this part of his scheme, seeing the little favour it has met with amongst his brother naturalists.

III. German, Dutch, and Russian Publications.

Among the articles in the first two parts of Cabanis' 'Journal für Ornithologie,' we have already noticed Dr. Hartlaub's "Monographie der Glanzstaare." Dr. Bernstein's notes upon the edible-birds'-nest-making Swifts (*Collocalia*)* of Java, and

---

* Several attempts have been lately made to clear up the somewhat complicated synonymy of the species of *Collocalia*—compare Moore, Cat. Mus. E. I. H. vol. i. p. 98; Cassin, Zool. U. S. Expl. Exp. p. 183, and Bonaparte, Compt. Rend. xli. p. 976. Dr. Bernstein has already conclusively shown that this genus of birds belongs to the Swifts (*Cypselidæ*), and not to the Swallows. See Verh. Kais. Leopold. Ak. Nat. 1857, p. 15.

Herr Eug. v. Homeyer's critical remarks upon disputed species of European birds, in reply to Professor Blasius, are also of great interest. We are glad to see the specific validity of *Amydrus tristramii* so strongly upheld by Dr. Hartlaub. With regard to his suggestion that Reichenbach's term *Pyrrhocheira,* as established in 1850, should take the place of *Amydrus,* we cannot allow that much consideration is due to Dr. Reichenbach's generic names, published as they were without any descriptive characters, or even the name of the type-species. Indeed, in this very case, the late Prince Bonaparte did "not doubt"* that the type of *Pyrrhocheira* was *Mimus carolinensis*; and, for aught we know, he is as likely to be right as Dr. Hartlaub,—the only guide to the question being the not very clearly delineated outline of the head and feet (Avium Syst. Nat. pl. 53).

A thick number of 'Naumannia' (Parts IV., V. and VI. in one) concludes the volume for 1858, we suppose, although no title-page and index are given. It contains several very important articles, amongst which we may point out as particularly worthy of notice the following:—(1.) Dr. Blasius' "Briefliche Mittheilungen über Helgoland," p. 303. An account is here given of the learned author's visit to this curious little island (which seems to be a favoured spot where all the rarest birds in Europe delight to congregate) and its resident naturalist Herr Gätke. Among the list of rarities given by Dr. Blasius are six birds *new* to the fauna of Europe: *Anthus ludovicianus,* L., *Orpheus lividus* (Wils.), and *Toxostoma rufum* (Linn.), from N. America; *Phyllopneuste borealis,* Blasius (*P. eversmanni,* Middend., nec Bp.); *Lanius phœnicurus,* Pallas, and *Calamoherpe certhiola* (Pallas), from northern Asia. (2.) Dr. Blasius' remarks upon the Gulls of Pallas' Zoographia Rosso-Asiatica, p. 316. (3.) Dr. Carl Bolle's biographical notice of *Pyrrhula githaginea,* as observed by himself in the Canaries, p. 369. (4.) H. Gätke's letter on his captures in Heligoland in 1858, p. 419. *Dendroica virens* of N. America is here recorded as having been obtained on the 19th October. But *Larus rossii* is not new to Europe, as H. Gätke supposes, it having already occurred more than once in the British Isles [*]. At p. 424, a list of 23 rare species obtained in Heligoland by the writer is given, the greater part of which are new to the fauna of Europe. (5.) H. Aug. v. Pelzeln's list of birds obtained in Madagascar by the late Madame Ida Pfeiffer.

---

* Compt. Rend. xxxviii. p. 56; Notes Orn. p. 39.

The division containing the Birds of H. Schlegel and J. A. Herklots' 'Fauna van Nederland' [†] is now complete, and forms a thick duodecimo volume of 700 pp., illustrated by pretty little figures of all the birds of Holland.

We have only lately met with a copy of Hofman's work on the Northern Ural [‡], being the Report of the exploring expedition sent out in 1847–50 by the Imperial Geographical Society to that country. The second volume contains a list of birds collected or observed, with remarks. Seventy species are enumerated, but nothing of particular interest is noted.

IV. AMERICAN PUBLICATIONS.

The tenth volume of the Pacific R. R. Reports [§] contains the separate zoological Reports of the several expeditions under the commands of Lieut. E. G. Beckwith, Lieut. A. W. Whipple, Lieut. J. G. Parke, Lieut. R. S. Williamson, and Lieut. H. L. Abbott. Amongst them will be found the field-notes of the different observers upon the birds collected during their explorations, illustrated with plates of the species not previously figured. The several articles are as follows:—(1.) Upon the birds collected on the survey of the 38th, 39th, and 41st parallels, by Prof. Baird: (2.) Upon the birds collected on the route of the 38th parallel, by Dr. C. B. R. Kennerly: (3). Upon the birds collected on the survey of the 32nd parallel, by Dr. A. L. Heerman: (4.) Upon the birds collected during the explorations in California, by Dr. A. L. Heerman. It is a pity, the plates, which are nicely done, are not marked with the names of the species figured, as this omission causes so much trouble in reference.

---

[*] Yarrell's Brit. B. ed. 3, and Suppl. to ed. 2.

[†] Fauna van Nederland door H. Schlegel en J. A. Herklots. Leyden, 1851–59.

[‡] Das nordliche Ural und das Küsten-gebirge Paechoi, &c. St. Petersburg, 1856, 2 vols. 4to.

[§] Reports of Explorations and Surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean. Vol. x. Washington, 1859.

For information concerning the first volume of Dr. Brewer's valuable work on N. American Oology, we refer our subscribers to the Review of this and Herr Bädeker's work given above, which has been furnished to us by one of our most valued correspondents.

The Report of the Board of Regents of the Smithsonian Institution for the year 1858 contains (p. 153) the "Instructions in reference to collecting nests and eggs of North American Birds," which we have before alluded to; also (p. 280) a "List of the Birds of Nova Scotia," compiled, from notes by Lieut. Blakiston, R.A., and Lieut. Bland, R.E., made in 1852–1855, by Prof. J. R. Willis of Halifax; and a "List of the Birds of Bermuda," by Lieut. Bland, both useful as local lists.

We have received a separate copy of a paper entitled "Catalogue of Birds collected in the vicinity of Fort Teyon, California, with a description of a new species of *Syrnium*," extracted from the Proceedings of the Academy of Nat. Sc. of Philadelphia for July last. The new *Syrnium* is *S. occidentale*, of the general appearance of *S. nebulosum*, of which, we suppose, it is the Western representative.

XLVIII.—*Letters, Extracts from Correspondence, Notices, &c.*

Since the date of our last Number, another member of our Ornithologists' Union has left England to take up his residence in a foreign land. Mr. Edward Newton, having received the appointment of Assistant Colonial Secretary at the Mauritius, started by the Overland route on the 16th of August last, and, by the time this announcement is read, will, we hope, have safely arrived at his destination. Though there has been a 'Société d'Histoire Naturelle de l'île de Meurice' in existence for many years, no connected account has ever appeared of the natural productions of this and the neighbouring islands, and their Fauna may be said to be almost unknown to European zoologists. Knowing Mr. Newton's zeal in the 'good cause,' and the energy he has already shown in the Tropics of the Western Hemisphere, we look forward with much pleasure to the access of zoological knowledge likely to ensue from his residence in so interesting a part of the Eastern world.

Letters received from Mr. Newton, dated during his voyage down the Red Sea, say—"Altogether I have seen a good many birds; between Malta and Alexandria, Nightingales (*Philomela luscinia*), a *Salicaria* (probably *arundinacea*), *Turtur risorius*, and *Tringoides hypoleucus*; between Alexandria and Cairo large flocks of Waders—*Totanus glottis* and other smaller species, *Aquila nævioides* and *Milvus ægyptius* (common), *Falco tinnunculus*, apparently migrating towards the north-west, as also *Merops apiaster*, *Hirundo rufula* (?) and another species like *H. riparia* *, the last two in flocks of thousands, evidently migrating, but going the wrong way for this time of year—how is this?"

The following extracts are from Mr. Fraser's last letters. The first is dated Quito, June 14th:—

"I propose going hence to Bodegas, there to make my head-quarters, and to hunt the country round as high as Guaranda. You may judge of the state of things here (caused by the blockade of the coast by the Peruvians and the civil war), when I tell you that I have been trying for a full month to get boxes for my present collection, and have not yet succeeded. We are in doubt whether we shall have provisions to eat in a day or two. The second portion of my Pallatanga collection (which place, by-the-by, is about 4000 feet above the sea-level—about the same as Nanegal) has been blockaded in Riobamba ever since December last, and the same may be said of my collection here. Allow me to suggest your arranging my collections according to the altitudes of the localities, and not as in the list † before me, where those from Cuenca, Gualaquiza and Zamora are intermixed. You have no idea how confused this appears to me. They should stand somewhat thus :—

---

* Probably *Cotyle rupestris*.—Ed.

† Proc. Zool. Soc. 1858, p. 449 *et seq.* A separate list of birds from Cuenca is given at p. 450.

Cuenca, Riobamba, Quito (9000 feet).
Gualaquiza, Zamora, Macas.
Pallatanga, Nanegal (4000 feet).
Matos, Pinipi, Calacali, Perrucho, Puellaro.

" Prof. Jameson will use his best endeavours to obtain *Tetragonops** for me, since I have given up the idea of returning to Nanegal, its habitat (not Cayambe, as you state). With respect to *Milvago megalopterus* †, I should say the birds were adult. They are only found on the Parano (the high, bare plains), and not having a tent, I only obtained them by accident. I think No. 2105 is another specimen of the same species, killed about 14,000 feet up Pichincha. Upon my first visit I saw four birds of this kind, two black and white, and two of a brownish colour. I took the former to be the parents and the latter the young, but they flew so high and so wild, that I could never get within rifle-shot of them."

The second letter, dated Babahoyo ‡, July 24th, says :—

" This place is generally called ' Bodegas,' *i.e. warehouses* or shops, it being the place where salt is deposited and pays duty. I reckon it at about 200 or 250 feet above the sea-level. Birds are abundant, both as to species and specimens : flocks are seen here, which is nowhere the case on the mountains. I have added to my collection 57 species during the two weeks I have been here. There is something very extraordinary as well as interesting in the moulting of birds in this country. I think the sudden changes produce it. I found the Pichincha Humming-bird (*Oreotrochilus pichincha*) pairing in imperfect plumage. Here, at this moment, it is common to see birds without tails, or with only one, two, or three feathers to them. I have never met with birds in such bad plumage before; they look as if escaped from confinement. They tell me that some species breed in the rains, and others in the midst of the dry season, and that the latter will commence in about a month. Humming-birds are rare here, and of Tanagers I have as yet only one species."

---

* *Tetragonops rhamphastinus* is a very singular form of *Capitonidæ* (described by Sir William Jardine in Edinb. New Phil. Journ. n. s. ii. p. 404, and iii. p. 90. pl. 4), to which we had expressly called Mr. Fraser's attention.

† This is in answer to a question as to the age of the specimens mentioned in P.Z.S. 1858, p. 555.

‡ Babahoyo is situated upon the river of that name, thirty or forty miles N.E. of Guayaquil.

We have received the following letter from Mr. Blyth :—

Calcutta, August 1st.

My dear Sir,—It will interest you to learn of the capture of a fine adult *Catarractes pomarinus* in the vicinity of Moulmein during last July (lat. 16° 20′ N.). This bird was procured by Major S. R. Tickell, who has presented it to the Asiatic Society's Museum, Calcutta. He writes—"It was picked up, or rather, I should say, knocked down, by some village boys in a swampy meadow about five or six miles south of Moulmein. There had been very heavy weather in the bay for some days past; but the singular thing is, that this bird should have ranged so wide from its usual haunts as to come within the influence of our tropical monsoon."

Major Tickell adds, "Another singular occurrence is the breeding of the Garganey in this part of the country (Moulmein). I have a young one now alive, which was brought to me just fledged from a pond or small lake about twelve miles off."

Here, in Lower Bengal, the two commonest species of Ducks during the cold season are *A. acuta* and *A. querquedula*; but I have never heard before of either species staying to breed south of the Himalaya.

On May 11th, 1846, I obtained, in the Calcutta Provision Bazaar, a *Phalaropus lobatus* in good winter dress, though so late in the season; but it was exceedingly lean and out of condition.

The late Prince C. L. Bonaparte mentions this species from the great lake of Nicaragua, which is in latitude as low as about 10° (Compt. Rend. xxxviii. p. 663). A more remarkable occurrence, however, was that of *Lobipes hyperboreus* in the vicinity of Madras, where it was obtained by my friend Dr. L. C. Stewart, in winter dress, but in what month I know not exactly.

Even in England this is a very rare bird. The specimen is now in the Calcutta Museum. I suspect that the genus *Catarractes* has never before been recorded as occurring, even accidentally, within the Tropics; and one great reason for separating *C. antarcticus* from *C. skua* was the great improbability of such a bird ever crossing the Equator.

I have been repeatedly asked for specimens from the Andaman Islands. Let me assure you that they are not easy to procure. The savages maintain their own so well, that our people cannot venture on the main island except in strong bodies; and not the smallest progress has been made in pacifying the Negrillo aborigines. By degrees, however, I am getting to know something of the Andaman fauna, though chiefly the marine species. Among these is the Dugong (*Halichore*) in the class Mammalia. Of terrestrial species we know as yet only of the peculiar little Pig, *Sus andamensis*; and I have taken a Mouse (apparently *M. manei*, and if so, doubtless introduced) from the stomach of a venomous snake. I have information, besides, of what would seem to be a *Tupaia*; and there is a Rat of some kind, not of recent introduction. But though sundry other small mammals may be expected, as Squirrels and Flying Squirrels, Shrews, Bats, &c., we know nothing of them as yet. Of birds, there is evidence of the abundance of Parrots, Green Pigeons (*Treron*), *Nectariniidæ*, &c.; but all that I as yet know of for certain are as follows:—

1. *Hæmatornis cheela.*
2. *Blagrus leucogaster.*
3. *Todirhamphus collaris.*
4. *Halcyon coromanda.*
5. *H. smyrnensis.*
6. *Corvus culminatus.*
7. *Gracula javanica.*
8. *Temenuchus erythropygius.*
9. *Tephrodornis griseola.*
10. *Geocichla innotata.*
11. *Copsychus saularis.*
12. *Kittacincla albiventris.*
13. *Artamus leucorhynchus.*
14. *Edolius retifer.*
15. *Pericrocotus peregrinus.*
16. *Pycnonotus jocosus*[*].
17. *Irena puella*[†].
18. *Oriolus coronatus* (?).
19. *Carpophaga sylvatica.*
20. *Calœnas nicobarica*[‡].
21. *Anous stolidus.*

---

[*] Malayan variety, with shorter ear-tufts of a deeper crimson than in the Indian race.

[†] Indian variety, *I. indica*, A. Hay.

[‡] From the Cocos rocks northward.

Others, as the *Collocaliæ*, may be predicated for certain; but I enumerate only what I have seen. Of Reptiles I have seen two lizards—one the female of apparently a second species of *Dilophyrus*, and the other a new *Philsuma*, quite distinct from *Ph. cepidianum* of the Mauritius,—and two snakes—*Trigonocephalus* (*Trimesurus*) *cantori*, nobis, described from the neighbouring group of the Nicobars, and a Tree-Snake, common in the neighbouring countries (*Dendrophis picta*)—the latter greener or less bronzed than usual. Of Sea-fishes I have many novelties, but need not here further allude to them or to specimens in other classes.

I have received of late many good things from China, and am surprised to see how many of our common Bengal birds extend their range to Amoy, with some of those of the S.E. Himalaya, and others of Java and the Philippines.

Major Tickell has also sent us a fine collection from the mountainous interior of the Tennasserim Provinces: *inter alia*, adults of *Buceros tickelli* and splendid examples of *Podoa personata*. Among the few novelties is a new Partridge (*Peloperdix*, nobis) congeneric with *personata, charltoni*, &c. A large proportion of the S.E. Himalayan species extend thus far; and so we can understand *Psarisoma dalhousiæ* occurring in Sumatra.

The following extracts from a letter from Mr. Osbert Salvin give some account of his proceedings on his way out, and in Guatemala, up to the end of July last:—

"At Jamaica I shot *Hemiprocne zonaris, Vireosylvia altiloqua, Mellisuga minima*, and a *Spermophila*. At Belize I shot nothing, as by mistake all my things were taken off in one of the Yzabal schooners, and I was left behind *minus* my gun. Two days was I obliged to wait before another schooner sailed, during which time I made what use I could of my eyes, and noted a few species, all of which, with the exception of *Progne dominicensis* (as I think it must be), we have recorded in our list. I saw also a pair of *Icterus cucullatus* exactly like my specimen. These *Icteri* bother me sadly, particularly *I. affinis* or something like it, which I have found here. I saw *Sterna fuliginosa*, and two other species, while passing down the coast. At Yzabal I got

Calliste larvata, four specimens; a fringilline bird, indigo-blue all over, which I do not know; *Ramphocelus passerini*; *Amazilia riefferi* (or *arsinoë*?); *Thaumantias candidus,* and several other species which I do not know. *Platalea ajaja* and *Ibis rubra* were very clearly described to me by Mr. George Baily, a resident at Yzabal: the former was killed on the lake of Dueñas (Constancia now has the specimen), so may certainly be included in our list. On the road up I could collect nothing, as I was by myself and without a servant, and consequently had to look out for food for myself and beast, instead of skinning birds, which I should have done had I had any one to do those indispensable requisites for me. However, I saw many birds; but those that interested me most were two specimens of *Momotus*—one with a brown head, the commonest of the two, and the other a smaller species, with the centre tail-feathers much elongated: the former of these equals in size *M. lessoni,* but is quite different. This bird seems very proud of its tail, and, sluggish as it is in other respects, is particularly fond of whisking it about—at one time throwing it almost over the back, at another moving it several times backwards and forwards, 'painfully' like (to use a homely simile) the pendulum of a Dutch clock. Its note rendered in words is rather a sort of 'whorrrrrr' than 'hōū hōū': I saw nothing of its nest, though I looked out sharply. The country in which these birds most abound lies between Gualan and Guastatoya, including the plain of Zacapa. All this district is an unfertile 'tierra caliente,' covered principally with *Cacti* and *Mimosæ.* Since I arrived here I have obtained some good specimens of the five species of Humming-birds found near at hand. I have also the Raven, a Swift which I do not know, and several others. A week ago I went up the Volcan de Fuego, that is, part of the way—some 9000 feet. I penetrated into the haunts of the *Oreophasis* and Quesal (*Pharomacrus paradiseus*) without result, but was much surprised with the nature of the district. What with the few birds I collected at Yzabal, and those I find inhabiting these dense elevated forests, I am sorely shaken in my notions as regards the true inhabitants of the 'tierra caliente' and 'tierra fria.' The former require a careful inspection—not but that the latter require it also. But more of this subject another time. This expedition did not result in much; but I see my way to some interesting facts respecting the elevation of the different species, especially the Humming-birds. Leaving the plains of Dueñas, the first fresh species I came upon were *Delattria viridipallens* and *Petasophora thalassina*; next, *Selasphorus heloisæ*; and lastly, *Lamprolæma rhami*. I also took a nest with three eggs of *Icterus wagleri*. The structure, though of the same character—a hanging nest—is very different from that of *I. gularis*, the common species on the Yzabal road. The nest, which I now have, has none of the depth of the other, but is comparatively shallow. Talking of nests, a day or two ago I found two of *Spermophila moreleti*, and took one rotten dried-up egg from one with a young one in it. Nothing could be more different than this nest and that of *S. bicolor*, well described by A. Newton (*anteà*, p. 147). That of *S. moreleti*, instead of the loose domed structure of *S. bicolor* with a large side-entrance composed entirely of one material, is one of the neatest nests you ever saw—a beautiful, open, transparent nest, composed of fine roots and fibres, and lined with horse-hair. It is not placed resting on a branch, but is suspended, like a Reed Warbler's (*Salicaria arundinacea*), by several small twigs. Something serious must be done about this—even to the making of a new genus, if it be not already done. The egg, too, differs materially. With these facts, it would be almost like putting *Myiozetetes texensis* with the genus *Tyrannus*, to keep *S. moreleti* with *S. bicolor* *.

"In Mammals I have done but little as yet—only three squirrels and a young rabbit. I cannot get the Indians to bring any: they are an apathetic race, and embrace a new idea with great difficulty; yet I do not despair of getting them to search, for me, some day. Of cold-blooded Vertebrates (tell Dr. Günther) I have two species of frogs, a toad, one snake, and some small freshwater fishes. Excepting the birds, I have neglected sadly to collect; but my time has been very much occupied these last three weeks in making a boat for a long-meditated expedition to the Lake of Atitlan, where W—— and I purpose going the week after next, if the Canicular holds out fine. This expedition, if it comes off, will, I expect, result in something satisfactory. Anyhow the scenery will repay the undertaking, as being perhaps the most magnificent which Central America can produce."

---

* *Spermophila bicolor* properly belongs to the genus *Phonipara*, and is more nearly allied to *Spiza*.—Ed.

To the Editor of The Ibis.

Kilmory, Lochgilphead, N.B.

Dear Sir,—On going last month to my father's property in the Hebrides (North Uist), the keeper told me that at the end of March 1859 he had shot a Falcon that he did not know. Unfortunately he only wounded it; and when he found it afterwards, the gulls and crows, which abound there, had made a sad mess of it. He kept the wings, tail and feet, and skull, and I think there is no doubt it is *F. islandicus* or *grœnlandicus*. I heard the other day of the occurrence of the Shore Lark (*Alauda alpestris*) in Scotland; I am to get place and date, and will send them to you. A Pintail Duck (*Dafila caudacuta*) was shot this spring in North Uist. It is rare in the Hebrides from what I hear: the keeper had not seen one before. The Falcon was shot on the N.W. side of the island; but, with a bird of such power of flight, this does not say much as to what quarter it came from.

I remain,
Yours truly,
John W. P. Orde.

Mr. Gurney has favoured us with a number of the San Francisco Herald, which contains a notice by Mr. A. S. Taylor of Monterey of the discovery of the egg of the Californian Vulture (*Cathartes californianus*). Mr. Gurney expects to receive the egg in question very shortly. The following is an extract from Mr. Taylor's article:—

"One of the *rancheros* of the Carmelo, in hunting among the highest peaks of the Santa Lucia range during the last week of April present, disturbed two Condors from their nests, and, at great risk of breaking his neck, brought away a young bird six or seven days old, and also an egg—the egg from one tree, and the chick from another. There was, properly speaking, no nest; but the egg was laid in the hollow of a tall old robles-oak, in a steep *barranca*, near the summit of one of the highest peaks, in the vicinity of the Tularcitos, near a place called Conejos. The birds are said, by some hunters, not to make their nests, but simply to lay their eggs on the ground, at the foot of old trees, or on the bare rocks of solitary peaks; others say they lay their eggs in old eagles' and buzzards' nests, while some affirm they make nests of sticks and moss; but the truth seems to be that they make no nests. The entire egg weighed $10\frac{1}{2}$ ounces, and the contents $8\frac{3}{4}$ ounces. The colour of the egg-shell is what painters call "dead dull white;" the surface of the shell is not glossy, but slightly roughened, as in the Sea-pelican's (?) eggs, but not so much. Its figure is very nearly a perfect ellipse, being a model of form and shape in itself. It measured $4\frac{1}{2}$ inches in length by $2\frac{3}{8}$ inches in breadth (diameter), and was $8\frac{3}{4}$ inches in circumference round the middle. The egg-shell, after the contents were emptied (which were as clear, fine, bright, and inodorous as those of a hen's egg, with a bright-yellow yolk), held as much as 9 fluidounces of water. Before the egg was opened, it sank on being placed in water—probably from its being very recently impregnated. Some of the old hunters say the egg is excellent eating; this one certainly had not the faintest musky odour, nor the slightest foreign smell.

"The young Condor mentioned above was from five to seven days old, and weighed 10 ounces avoirdupois. The whole skin of this chick was of an ochreous yellow, covered with a dull-white fine down; the beak was coloured the same as in the old birds; the skin of the head and neck entirely bare of down, and of ochreous yellow; the colour of the legs of a deeper shade than that of the body: it had the musky smell of the old birds; the size and appearance of a two-months-old gosling; it had only been dead a couple of hours."

Mr. John Petherick, who has lately returned to this country for a short visit from Khartoum in the Soudan, where he fills the situation of H. B. M.'s Vice-Consul, has brought with him specimens of the celebrated *Balæniceps rex* and its eggs. He informs us that this bird is met with on the upper part of the White Nile, 4° north of the Equator, where the country is low and flat, being intersected by numerous branches of the river, and covered with vast reedy marshes, which are overflowed in the wet season. The *Balæniceps* is here seen among the reeds, or stationed stork-like in shallow water, on the watch for fishes, upon which it principally subsists. It makes a large and untidy nest among the reeds. The eggs are two in number. The specimens brought by Mr. Petherick are of a dirty white, and covered with a chalk-like epidermis. They are of a broad oval, rather tapering towards the small end, measuring 4 inches by 3·1. The Arabs call this bird *Abou makoub*—the father of the shoe, in allusion to its enormous shoe-like bill.

This account differs in several particulars from that given by M. Jules Verreaux in the 'Edinburgh New Philosophical Magazine' (n. s. vol. iv. p. 101 *et seq.*), and there can be no doubt that M. Verreaux was misinformed by his correspondent as to the position of the nest, nature of the food, and colour of the eggs.

The following letter relates to the occurrence of Pallas's Sand-grouse (*Syrrhaptes paradoxus*) in Norfolk. No doubt it was one of the same flock that was observed near Tremadoc in Wales on the 9th of July, as recorded in 'The Zoologist,' and of which one was obtained, and is now in the Derby Museum at Liverpool. Through the kindness of Mr. Leadbeater, we had ourselves an opportunity of examining the present specimen, which was a bird in fine plumage, and more darkly banded on the breast than is represented in the plate given in Gray and Mitchell's 'Genera' (vol. iii. pl. 134). The native country of this Sand-grouse is the barren steppes of the Kirghiz Tartars; and I am not aware of any authentic instance of its previous occurrence in Europe. It was first described by Pallas in his 'Travels' (vol. ii. App. p. 111), and again in his 'Zoographia Rosso-Asiatica' (vol. ii. p. 74). A second species of this peculiar form has of late years been discovered in Ladakh, and is figured in Mr. Gould's 'Birds of Asia,' part ii., under the name of *Syrrhaptes tibetanus*. While agreeing with the type-species in the singular structure of the feet*, it wants the acuminated terminations of the primaries.

To the Editor of The Ibis.

Clenchwharton, near Lynn, Norfolk,
Sept. 29th, 1859.

Sir,—Early in the month of July last, a very beautiful specimen of Pallas's Sand-grouse (*Syrrhaptes paradoxus*) was shot in the parish of Walpole St. Peter's, in this county (Norfolk), about two miles from the Wash. I should have made you acquainted with this interesting occurrence before, but have been waiting to gather all the information I could concerning the capture of this rare and curious bird. I regret to say I am unable to add any particulars of importance, except that, though solitary when shot, at least one other, apparently of the same species, was observed about the same time in the neighbourhood, but was pursued without success. The bird was skinned before I had an opportunity of seeing it, and though by a very unskilful hand, fortunately no material damage was done to it. I at once applied in order to ascertain whether the carcase had been preserved or examined, but I found that the operator's interest had not extended beyond the removal of the skin; this is much to be regretted. We must, however, congratulate ourselves upon our good fortune in securing the bird at all, considering it was shot by a labouring youth wholly unacquainted with its value, and who was quite as likely to have plucked and eaten, or thrown the prize away (the fate of many a valuable specimen), as to have placed it in the hands of the Rev. R. Hankinson, to whom the Lynn Museum is indebted for this most interesting specimen, beautifully mounted by Mr. Leadbeater of Brewer Street. There is reason to believe our bird to be a male adult, in perfect plumage. I believe this species has not before been taken in this country, or even in Europe; upon this point you will be able to inform your readers.

It cannot be too strongly impressed upon those into whose hands such rare birds fall, that the contents of the crop, and the bones of the skeleton, especially the sternum or breast bone, should be preserved.

---

* *Pedes* maximè insoliti, tridactyli; *digitis* brevissimis, coalitis, solo apice et unguibus distinctis, brevibus, usque fere ad ungues plumosis: unde planta triloba, latiuscula, corneis papillis imbricata.—*Pallas.*

I am, Sir,
Yours truly,
Frederick L. Currie.

Mr. E. Fountaine sends us "a further note* on the nesting of *Bubo maximus* in captivity."

Easton, Norfolk, June 13, 1859.

A pair of Eagle Owls bred by me in confinement have lately laid three eggs and hatched one young bird. This is the first instance that any of the eggs of my birds, produced by individuals bred themselves in confinement, have proved fertile. The female which laid these eggs is ten years old, the cock about half that age.

In a communication made to the Imperial Geographical Society of Russia, dated from a post on the banks of the Amoor in the Ki-nghan Mountains in Sept. 1857, M. Radde, the naturalist attached to the exploring expedition, mentions having met with flocks of a "*Bombycilla*," which, from the description given, seems to be *Ampelis phœnicoptera* of Temminck, hitherto only known from Japanese specimens received through the Dutch (see Journ. Roy. Geogr. Soc. 1858, p. 419). From the 'Comptes Rendus' of the I. G. S. for 1858, we learn that Prof. Radde had passed the previous winter in the same place, and in the following year was to explore the mountainous country of Tounkinsk.

Mr. Gould, with his usual energy, has already succeeded in obtaining from Siam a specimen of the splendid Pheasant named by Mr. Blyth *Diardigallus fasciolatus*, which we have previously alluded to several times (*anteà*, pp. 114, 201, 211). He has kindly allowed us to examine it. It is certainly, in our opinion, the same as the bird described by Prince Bonaparte as *Diardigallus prælatus*. If, however, as appears likely to be the case, it is the female of this bird, which is represented in a drawing brought by Mr. Crawfurd from Siam many years ago, both these specific names will have to give way to an older one, Dr. J. E. Gray having established his *Phasianus crawfurdi* (Griffith's Cuvier's An. Kingd. iii. p. 27) upon the faith of Mr. Crawfurd's figure.

---

* See before, p. 273.

We are happy to be able to announce that there is every probability that the Vicomte B. Du Bus de Ghisignies will continue his 'Esquisses Ornithologiques,' the publication of which has been so long interrupted. On the other hand, we learn that M. de Souancé's work on Parrots*, commenced in conjunction with the late Prince C. L. Bonaparte, has stopped at its 12th livraison, and that there is no probability of its continuance,—M. de Souancé having parted with his fine collection of birds to M. E. Parzudaki, who now has the disposal of them. The same fate has befallen the corresponding work on Pigeons*.

The Zoological Society of London have recently obtained specimens of the *Buteo tachardus* or African Buzzard, lately introduced into the European list by Mr. Bree (Birds of Europe, p. 97) upon the authority of Mr. J. H. Gurney. A pair of this species were received by the Society from Mogador some months ago. A pair of the Ruddy Shieldrake (*Casarca rutila*) have bred in the Gardens for the first time this season, and reared four fine young birds. A solitary female of the South African White-faced Shieldrake (*Casarca cana*) mated this spring with a male Common Shieldrake (*Tadorna vulpanser*). The hybrids are very curiously coloured. The same hen-bird has previously bred twice with an Indian male of *Casarca rutila*. A valuable addition to the collection is shortly anticipated in the shape of some living examples of the *Balæniceps* now on their way down the Nile from Central Africa.

---

* See *anteà*, p. 105, for a notice of these books.

INDEX OF NAMES OF AUTHORS.

Page

Blyth, Edward, Curator of Royal Asiatic Society's Museum, Calcutta. Occurrence of *Catarractes pomarinus*, &c., in India, and Zoology of the Andamans 464

Crewe, Rev. H. Harpur. Early appearance of *Caprimulgus europæus* 208

Currie, Frederick L. Letter on the occurrence of Pallas's Sandgrouse in Norfolk 472

Elliot, Daniel G., of New York. Descriptions of six New Species of Birds 391

Elwes, Robert. Note on the Breeding and Mode of Capture of the Short-tailed Petrel, or Mutton-Bird (*Puffinus obscurus*), in the islands in Bass's Straits 397

Evans, Edward, and Wilson Sturge. Notes on the Birds of Western Spitzbergen, as observed in 1855 166

Eyton, T. C., F.L.S., F.Z.S., F.G.S., &c. On the different Methods of Preparing Natural Skeletons of Birds 55

Fountaine, Edward. Notes on the Nesting of a pair of Eagle Owls (*Bubo maximus*) in confinement 273

Further Note on the Nesting of *Bubo maximus* 473

Fraser, Louis, Corr. Memb. Zool. Soc. See Jameson.

Gould, John, F.R.S., F.L.S., F.Z.S. &c. *Astur palumbarius* shot in Suffolk 205

Gurney, John Henry, M.P., F.Z.S. List of Birds received from Ibadan, in Western Africa 152

Irides of *Milvus ater* and *M. ægyptius* 207

List of a Collection of Birds from the Colony of Natal in South-Eastern Africa 234

List of Birds of Prey received from Beyrout 389

Note on Pel's Owl (*Scotopelia peli*) 445

Hartlaub, Dr. Gustav, For. Memb. Zool. Soc. See Heuglin.

Page

HAWKER, Rev. WILLIAM HENRY, M.A. Supposed Nest and Eggs of *Lanius excubitor* 330

HEUGLIN, Dr. THEODOR VON. List of Birds observed and collected during a Voyage in the Red Sea. Edited and translated by Dr. G. Hartlaub 337

HEWITSON, WILLIAM CHARLES. Recent Discoveries in European Oology 76

JAMESON, Dr. WILLIAM, of Quito, and LOUIS FRASER, Corr. Memb. Zool. Soc. Notes on some of the Humming-birds of Ecuador figured in Mr. Gould's Monograph 399

KNOX, ARTHUR EDWARD, M.A., F.L.S. On the Habits of the Black-winged Stilt, as observed on its occurrence in Sussex 395

NEWTON, ALFRED, M.A., F.L.S., F.Z.S. &c. Remarks on the Harlequin Duck (*Histrionicus torquatus*, Bp.) 162

NEWTON, ALFRED and EDWARD. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th, 1857, and between March 4th and September 28th, 1858. Part I. 59
Part II. 138
Part III. 252
Part IV. 265

NEWTON, EDWARD, B.A., Corr. M.Z.S. See NEWTON, ALFRED and EDWARD.

ORDE, JOHN W. P. Letter on the occurrence of certain Birds in the Hebrides 469

ROWLEY, GEORGE DAWSON, M.A. Remarks on *Sylvia provincialis*, and on the occurrence of *Alauda brachydactyla* near Brighton 329

SALVIN, OSBERT, B.A., Corr. M.Z.S. Five months' Birds'-nesting in the Eastern Atlas.—Part I. 174
Part II. 302
Part III. 352

Letter describing his Voyage out to and proceedings in Guatemala 466

SALVIN, OSBERT. See SCLATER.

SCLATER, PHILIP LUTLEY, M.A., F.L.S., Sec. Z.S. &c. Characters of an undescribed species of Hawk from New Caledonia 275

A List of the Tyrant-birds of Mexico, with descriptions of some new species 436

Page

Sclater, Philip Lutley, and Osbert Salvin. On the Ornithology of Central America.—Part I. 1
Part II. 117
Part III. 213

Simpson, W. H., M.A. Narrative of the Discovery of some Nests of the Black Woodpecker (*Picus martius*) in Sweden 264

Sturge, Wilson. See Evans and Sturge.

Taylor, Rev. E. Cavendish, M.A., F.Z.S. Ornithological Reminiscences of Egypt 41

Taylor, George Cavendish. Account of a visit to a Nesting-place of the Frigate-bird (*Fregata aquila*) 150

Tomes, Robert F. On the occurrence of White's Thrush (*Oreocincla aurea*) near Stratford on Avon, with remarks on the genera *Oreocincla*, *Turdus*, and *Merula* 379

Tristram, Rev. H. B., M.A., F.L.S. Notes on Birds observed in Southern Palestine in the months of March and April 1858 22
Characters of apparently New Species of Birds collected in the Great Desert of the Sahara, southwards of Algeria and Tunis 57
On the Ornithology of Northern Africa.—Part I. 153
Part II. (The Sahara) 277
Part III. (The Sahara, *continued*) 415

Wallace, Alfred R. Letter concerning the Geographical Distribution of Birds 449

Wolley, John, junior, M.A., F.Z.S. On the Breeding of the Smew (*Mergus albellus*) 69
On the Breeding of the Crane (*Grus cinerea*) in Lapland . . 191

INDEX.

Acanthiza chrysorrhœa, 317.
Acanthylis collaris, 125.
—— semicollaris, 322.
Accentor altaicus, 100.
—— atrigularis, 100.
—— huttoni, 100.
—— variegatus, 100.
Accipiter brachydactylus, 390.
—— erythrocnemis, 218.
—— exilis, 242.
—— falco tunetanus, 188.
—— ferox, 93.
—— fuscus, 218.
—— haplochrous, 275.
—— hyogaster, 276.
—— hypoleucus, 92.
—— minullus, 242.
—— niger, 87.
—— nisus, 45.
—— poliocephalus, 276.
—— polyzonoïdes, 390.
—— sphenurus, 390.
—— tachiro, 241.
Actitis hypoleucus, 347.
Actiturus bartramius, 230.
Actodromas wilsonii, 258.
Adelomyia melanogenys, 400.
Aëdon familiaris, 341.
—— galactodes, 308, 419.
—— minor, 341.
Ægialites cantiacus, 355, 357.
—— minor, 355, 357.
—— vociferus, 227.
Ægiothus linaria, 254.
Ægithalus flavifrons, 110.
Agelæus phœniceus, 19.
Aglæactis cupreipennis, 333.
Aix sponsa, 166.
Alauda alpestris, 421, 469.
—— arvensis, 314, 424.
—— brachydactyla, 314, 330.
—— calandra, 314.
—— cristata, 48, 314.
Alca impennis, 174.
—— torda, 173.
Alcedo ispida, 47.
—— quadribrachys, 245.
—— rudis, 47.
Amadina cantans, 343.
Amazillia arsinoë, 130.
—— corallirostris, 130.
—— dubusi, 130.
—— ocai, 456.
—— riefferi, 130, 467.
Amazona auropalliatus, 138.
Ammomanes ——?, 34.
—— elegans, 34, 106, 423.
—— isabellina, 34, 422.
—— pallida, 422, 423.
—— regulus, 423.
Ammoperdix heyii, 41.
Ampelis cedrorum, 13.
—— garrula, 107, 336.
—— phœnicoptera, 473.
Amydrus blythii, 342.
—— tristramii, 32, 319, 459.
Anabates rubiginosus, 5, 117.
Anas acuta, 54, 464.
—— arborea, 366.
—— boschas, 54, 357, 363.
—— clangula, 163.
—— clypeata, 54.
—— crecca, 54.
—— dominica, 367.
—— glacialis, 163.
—— histrionica, 162.
—— inornata, 327.
—— leucostigma, 251.
—— marila, 366.
—— mariloïdes, 366.
—— nyroca, 161.
—— obscura, 368.
—— querquedula, 464.
—— rufina, 161.
—— sparsa, 251.
Andigena laminirostris, 114
Andropogon bicolor, 147.
Anous stolidus, 233, 371, 465.
—— tenuirostris, 351.
Anser ægyptiacus, 54.
—— albifrons, 54.
Anser arvensis, 199.
—— ferus, 172.
—— finmarchicus, 212.
—— paludosus, 199.
—— segetum, 199.
Anthus arboreus, 421.
—— campestris, 31, 41, 421.
—— ludovicianus, 9, 459.
—— pratensis, 31, 310, 421.
—— rufescens, 310.
Anthropoides virgo, 355.
Anumbius ferrugineigula, 108.
Apteryx mantellii, 115.
Aquila barthelemyi, 202.
—— belisarius, 182.
—— bonelli, 182.
—— chrysaëtos, 23, 180, 202, 283.
—— clanga, 402.
—— fasciata, 88.
—— heliaca, 23, 404.
—— imperialis, 42.
—— mogilnik, 88.
—— nævia, 23, 43, 181, 390, 402.
—— nævioides, 88, 93, 158, 159, 181, 238, 462.
—— pennata, 43, 88, 182, 390.
—— rapax, 158, 337.
—— vindhiana, 88.
Ara aracanga, 5, 137.
Aramides cayennensis, 230.
Aramus holostictus, 227.
—— scolopaceus?, 227.
Arctica alle, 168.
Ardea atricollis, 153.
—— brunnescens, 262.
—— bubulcus, 50, 153, 346, 358.
—— cærulea, 373.
—— cayanensis, 263.
—— cinerea, 37, 50, 248.
—— coromanda, 358.
—— goliath, 345.
—— herodias, 226, 263.
—— jamaicensis, 263.
—— purpurea, 345.
—— russata, 50, 358.

Ardea violacea, 262.
—— virescens, 261.
Ardeola minuta, 37, 346.
Ardetta minuta, 249, 358, 359.
Arremon giganteus, 14.
Artamus leucorhynchus, 201, 465.
Ascalaphia savignii, 291.
Astur approximans, 276.
—— atricapillus, 86.
—— melanoleucus, 241.
—— novæ hollandiæ, 276.
—— palumbarius, 197, 287, 290, 414.
—— trinotatus, 276.
Asturina albifrons, 218.
—— brachyura, 218.
—— magnirostris, 217.
—— nitida, 217.
Athene meridionalis, 26, 46, 78.
—— noctua, 190.
—— numida, 190, 279, 291.
—— woodfordi, 242.
Atlapetes rubricatus, 18.
Atticora pileata, 13, 101.
Attila citreopygius, 120, 438.
Aulacorhamphus prasinus, 135.
Avicida cuculoides, 240.

Balæniceps rex, 471.
Barkeria skinneri, 3.
Basileornis corythaix, 113.
Bernicla brenta, 167.
—— inornata, 327.
—— leucolæma, 201.
—— magellanica, 328.
—— poliocephala, 328.
Betula nana, 171.
Blagrus leucogaster, 465.
Bolborhynchus catharina, 137.
Botaurus stellaris, 357, 359.
Brachyotus palustris, 391.
Branta rufina, 358, 363.
Buarremon brunneinuchus, 15.
—— chrysopogon, 15.
—— leucopterus, 114.
Bubo ascalaphus, 46.
—— maculosus, 242.
—— maximus, 273.
Bubulcus ibis, 346.
Buceros cassidix, 113.
—— elatus, 153.
—— erythrorhynchus, 343.
—— exaratus, 113.
Buceros fasciatus, 153.
—— tickelli, 466.
Budytes boarulus, 41.
—— flava, 31, 310, 341, 358, 420.
—— melanocephala, 31, 420.
—— rayi, 420.
Buphaga erythrorhynchus, 342.
Buphus bubulcus, 358.
—— comatus, 37, 346.
—— ralloïdes, 357, 359.
Buteo albonotatus, 217.
—— borealis, 217, 412.
—— brachyurus, 218.
—— cirtensis, 93, 183.
—— ghiesbreghti, 5, 217.
—— harlani, 217.
—— insignatus, 216.
—— jakal, 240.
—— leucurus, 91, 92, 401.
—— montanus, 412.
—— pectoralis, 92.
—— pennsylvanicus, 217.
—— rufinus, 43, 91, 92.
—— tachardus, 93, 159, 183, 390, 474.
—— vulgaris, 183.
—— zonocercus, 217.
Buteogallus nigricollis, 216
Butorides atricapillus, 346.
—— virescens, 146, 148, 227, 261, 373, 377, 378.

Caccabis heyii, 36.
—— petrosa, 353.
—— saxatilis, 35.
Cacicus montezumæ, 19.
Cairina moschata, 232.
Calamodyta aquatica, 305.
—— cettii, 305.
—— locustella, 304.
—— luscinoides, 304.
Calamoherpe certhiola, 459
—— pallida, 341.
—— turdoïdes, 305, 341, 418.
Calandrella brachydactyla, 34, 58, 315, 422, 426.
—— reboudia, 58, 106, 422.
Calidris arenaria, 229, 256, 348.
Calliste cyanotis, 110.
—— gyrola, 110.
—— larvata, 16, 467.
—— lavinia, 110.
Calocitta formosa, 22.
Calœnas nicobarica, 465.
—— stairi, 327.
Calornis cantor, 327.
Calornis corvina, 327.
Calothorax pulchra, 456.
Calurus resplendens, 132.
Campephilus imperialis?, 136.
Camptostoma imberbe, 444.
Campylopterus delattrii, 127.
—— pampa, 127.
—— rufus, 126.
Campylorhynchus capistratus, 8.
Cancroma cochlearia, 227.
Canis aureus, 156.
—— lagopus, 168.
Caprimulgus europæus, 208, 302, 339.
—— infuscatus, 242.
—— isabellinus, 46, 158.
—— natalensis, 243.
—— poliocephalus, 339.
Carbo cormoranus, 54, 365.
—— desmaresti, 107.
Cardinalis virginianus, 104.
Carduelis elegans, 34, 313.
Carpophaga sylvatica, 201, 465.
Casarca cana, 362, 474.
—— rutila, 357, 362, 474.
Cassiculus prevosti, 19.
Casuarius bennettii, 102, 115, 212, 335, 455.
—— galeatus, 115.
Catarractes antarcticus, 465.
—— pomarinus, 464.
—— skua, 465.
Cathartes atratus, 213, 232.
—— aura, 213.
—— burrovianus, 213.
Catreus wallichii, 319.
Cattleyia skinneri, 3.
Celeopicus verreauxii, 105.
Celeus castaneus, 137.
Centropus senegalensis, 49, 153.
—— superciliosus, 247.
Centurus pucheranii, 136.
—— santacruzi, 136.
Cephalopterus glabricollis, 114.
—— ornatus, 114, 457.
—— penduliger, 114.
Cercomacra tyrannina, 119.
Cercomela asthenia, 41.
Cercotrichas erythroptera, 341.
Ceriornis caboti, 100.
Certhia maculata, 143.
Certhilauda desertorum, 343, 424, 427.

Certhilauda duponti, 427.
—— salvini, 57, 428.
Certhiola flaveola, 67, 378.
—— maritima, 144.
Ceryle abyssinica, 339.
—— alcyon, 67, 131.
—— amazona, 131.
—— americana, 131.
—— gigantea, 243.
—— maxima, 243.
—— rudis, 27, 41, 245.
—— superciliosa, 131.
—— torquata, 131.
Cettia sericea, 418.
Chalcopsitta rubrifrons, 102.
—— scintillata, 102.
Chamæpelia passerina, 223.
—— rufipennis, 223.
—— trochila, 253, 375, 377.
Charadrius cantianus, 345.
—— cirrhipedesmos, 345.
—— geoffroyi, 345.
—— hiaticula, 173.
—— marmoratus, 255.
—— minor, 52.
—— pluvialis, 255, 355.
—— tricollaris ?, 345.
—— virginicus, 227, 255.
Charmosyna, 210.
Chaulelasmus streperus, 363.
Chelidon cashmeriensis, 101.
—— urbica, 302, 434.
Chenalopex ægyptiaca, 348.
Chiroxiphia linearis, 124.
Chlamydera cerviniventris, 455.
Chloris aurantiiventris, 313
Chloronerpes sanguinolentus, 136.
—— yucatanensis, 136.
Chloropeta pallida, 159.
Chlorophanes atricapilla, 14.
Chlorophonia occipitalis, 17, 322.
Chlorospiza chloris, 33, 313.
Chlorostilbon caniveti, 130.
Chrœcocephalus atricilla, 371.
Chroicocephalus atricilla, 233.
Chrysobronchus virescens, 100.
—— viridicaudus, 100.
Chrysococcyx auratus, 247.
—— claasii, 247.
—— lucidus, 317.
Chrysococcyx minutillus, 455.
—— smaragdineus, 246.
Chrysomitris mexicana, 19.
Chrysotis ——?, 138.
—— albifrons, 138.
—— auripalliatus, 138.
—— vittata, 377.
Chrysuronia eliciæ, 100, 130.
Cichlherminia fuscata, 141, 145, 376, 378.
Ciconia abdimii, 346.
—— alba, 36, 51, 356, 359.
—— nigra, 36, 51.
—— leucocephala, 248.
Cinclus aquaticus, 38.
Cinnyris osea, 41.
Circaëtus cinerascens, 91, 328.
—— cinereus, 91.
—— coronatus, 91.
—— fasciolatus, 92.
—— ferox, 91.
—— gallicus, 23, 92, 182, 283, 390.
—— melanotis, 328.
—— pectoralis, 91.
—— solitarius, 91.
—— thoracicus, 238.
Circus ——?, 26.
—— æruginosus, 190, 391.
—— assimilis, 276.
—— cineraceus, 46, 391.
—— cyaneus, 46, 197.
—— hudsonicus, 220.
—— pallidus, 46.
—— ranivorus, 242.
—— rufus, 46.
—— swainsoni, 390.
Cistothorus brevirostris, 9.
—— elegans, 8.
Coccothraustes abeillii, 19.
—— vulgaris, 313.
Coccyzus americanus, 149.
—— seniculus, 150.
Cœligena wilsoni, 400.
Cœreba lucida, 14.
Colaptes auratus, 110.
—— chrysocaulosus, 110.
—— mexicanoides, 137.
—— mexicanus, 137.
—— rubricatus, 137, 202.
Colluricincla fusca, 142.
Columba ——?, 35.
—— corensis, 252.
—— imbricata, 252.
—— leucocephala, 222, 253.
—— livia, 35, 50, 318.
—— monticola, 252.
—— œnas, 35.
Columba palumbus, 151, 252, 318.
—— passerina, 254, 375.
—— portoricensis, 252.
—— rufina, 222.
—— Sancti-Thomæ, 374.
—— schimperi, 49.
—— speciosa, 222.
—— turtur, 405.
—— zenaida, 253.
Colymbus glacialis, 173, 174.
—— thomensis, 374.
Cometes? glyceria, 100.
Conirostrum superciliosum, 10.
Contopus borealis, 122, 440.
—— mesoleucus, 122, 440.
—— sordidulus, 122, 441.
—— virens, 122, 441.
Conurus æruginosus, 374.
—— astec, 137.
—— holochlorus, 456.
—— lineolatus, 137.
—— xantholæmus, 374, 376, 456.
Copsychus macrurus, 310.
—— pica, 108.
—— saularis, 201, 465.
Coracias garrula, 27, 302, 339.
Corethrura cayennensis, 230.
—— ruficollis, 249.
Corospiza simplex, 294.
Corvus affinis, 342.
—— cacalotl, 5, 21.
—— corax, 33, 49, 291, 312
—— cornix, 33, 49.
—— culminatus, 201, 465.
—— dauricus, 113.
—— monedula, 292, 312.
—— ruficollis, 326.
Corythornis cristata, 245.
Cotinga amabilis, 4, 5, 125.
Coturniculus passerinus, 18
Coturnix dactylisonans, 36.
—— vulgaris, 50.
Cotyle paludicola, 339.
—— riparia, 27, 302, 434.
—— rupestris, 27, 434.
—— serripennis, 13, 126.
—— torquata, 339.
Crateropus chalybeus, 30, 41.
—— fulvus, 420, 435.
—— numidicus, 30, 279.
Crax alector, 223.
Craxirex unicinctus, 216.
Creurgops verticalis, 102.
Crex baillonii, 357, 361.

Crithagra hartlaubi, 203.
Crotophaga ani, 134, 146, 148, 376, 378.
—— sulcirostris, 135.
Ctenodactylus massoni, 290.
Cuculus, sp. ?, 435.
—— abyssinicus, 157.
—— canorus, 35, 77, 106, 316, 343.
—— carolinensis, 149.
—— glandarius, 49, 76.
—— gularis, 246.
—— nigricans, 246.
—— ruficollis, 435.
Culicivora mexicana, 9.
Cuncuma leucogastra, 328.
Curruca atricapilla, 28, 41, 417.
—— cinerea, 40.
—— cisticola, 40.
—— galactodes, 40.
—— garrula, 40.
—— gracilis, 40.
—— hortensis, 417.
—— languida, 40.
—— momus, 41.
—— orphea, 28, 40, 417.
—— phragmitis, 40.
—— trochilus, 40.
—— viridula, 40.
Cursorius gallicus, 79, 354.
—— isabellinus, 79.
Cyanalcyon leucopygius, 105.
Cyanocitta melanocyanea, 21.
—— nana, 21.
—— ornata, 21.
—— pumilo, 21.
Cyanocorax guatemalensis, 22.
Cyanomyia cyanocephala, 127.
—— sordida, 456.
—— violiceps, 456.
Cyanopica cyanea, 105.
Cyanospiza ciris, 17.
—— cyanea, 18.
—— versicolor, 17.
Cyanurus bullockii, 22.
—— coronatus, 22.
Cyclopsitta desmarestii, 210
Cyclorhis flaviventris, 13.
Cyclorhynchus brevirostris, 443.
—— cinereiceps, 443.
—— flaviventris, 444.
—— olivaceus, 443.
—— ruficauda, 444.
—— schistaceiceps, 444.
Cyclorhynchus sulphurescens, 443.
Cygnopsis canadensis, 368.
Cymindis cayennensis, 219.
—— uncinatus, 219.
Cypselus, sp., 339.
—— abyssinicus, 339.
—— apus, 26, 47, 302, 435.
—— collaris, 110.
—— galilæensis, 391.
—— melanoleucus, 125.
—— melba, 26, 189, 302, 358, 435.
—— niger, 110.
Cyrtonyx ocellatus, 226.

Dacelo gigas, 200.
—— undulatus, 200.
Dafila acuta, 231.
—— caudacuta, 469.
Dama vulgaris, 156.
Dandalus rubecula, 417.
Dasycephala citreopyga, 438.
Delattria henrica, 129.
—— viridipallens, 129, 468
Dendrobates hemprichii, 343.
Dendrochelidon comatus, 319.
—— coronatus, 319.
—— klecho, 319.
—— mystaceus, 319.
—— wallacei, 319.
Dendrocolaptes sancti-thomæ, 118.
Dendrocops anabatinus, 118.
Dendrocygna arborea, 366.
—— autumnalis, 231.
—— viduata, 251.
Dendrœca æstiva, 143, 378.
—— discolor, 144.
—— superciliosa, 375.
—— tigrina, 144.
Dendroica æstiva, 11.
—— blackburniæ, 11.
—— castanea, 11.
—— coronata, 11.
—— maculosa, 11.
—— townsendii, 11.
—— virens, 11, 459.
Dendrophis picta, 466.
Dendrortyx leucophrys, 226.
Diardigallus fasciolatus, 114, 201, 211, 473.
—— prælatus, 201, 473.
Diglossa baritula, 14.
Diplopterus excellens, 133.
Discura longicauda, 100.
Dromæus novæ hollandiæ, 115.
Dromas ardeola, 346.
Dromococcyx mexicanus, 133.
Dromolæa isabellina, 59, 299.
—— leucocephala, 107, 158, 298.
—— leucopygia, 29, 107, 158, 297.
—— leucura, 29, 107, 296.
—— monacha, 299.
Drymoica gracilis, 340.
—— rufifrons, 340.
—— striaticeps, 202, 419.
Dryocopus guatemalensis, 135.
—— leucorhamphus, 135.
—— regius, 135.
—— scapularis, 135.
Dryoscopus turatii, 105.
Dysporus sula, 351, 369.

Eclectus cardinalis, 210, 336.
—— linnæi, 200.
Edolius, sp. ?, 201.
—— retifer, 465.
Egretta alba, 37.
—— garzetta, 37.
Elænia ——?, 123.
—— variegata, 442.
Elainia pagana, 123.
—— placens, 123, 443.
—— variegata, 123.
—— vilissima, sp. nov., 122.
Elanoides axillaris, 95.
—— furcatus, 95, 220.
—— leucurus, 95.
—— melanopterus, 95.
—— scriptus, 95.
Elanus leucurus, 220.
—— melanopterus, 45, 94, 160, 184, 240.
Emberiza cæsia, 34.
—— cia, 295.
—— cirlus, 295, 314.
—— hortulana, 34.
—— miliaria, 34, 314.
—— saharæ, 34.
Empidonax albigularis, sp. nov., 122.
—— bairdi, 442.
—— brachytarsus, 441.
—— flaviventris, 122, 441.
—— fulvifrons, 442.
—— minimus, 122, 441.
—— pusillus, 441.
—— traillii, 441.

Enneoctonus collurio, 147.
—— rufus, 32.
Eos cyanogenia, 211.
—— fuscata, 201, 210.
Ephialtes capensis, 242.
Ereunetes petrificatus, 257.
Eriocnemis derbianus, 100.
—— isaacsoni, 100.
—— nigrivestis, 100.
Erismatura dominica, 367.
—— mersa, 358, 364.
—— rubida, 5, 232.
Erythacus rubecula, 308.
Erythronota edwardi, 100.
—— feliciæ, 376.
—— niveiventris, 100.
Erythropus vespertinus, 26, 87, 289.
Erythropygia galactotes, 28.
Erythrospiza githaginea, 34, 49, 294.
Euchætes coccineus, 102.
Eugenes fulgens, 128.
Eugenia imperatrix, 400.
Eulampis chlorolæmus, 138, 262, 375.
Eumomota superciliaris, 132.
Eupherusa eximia, 130.
Euphonia affinis, 16.
—— cyaneidorsalis, 322.
—— elegantissima, 16.
—— gouldi, 17.
—— hirundinacea, 16.
—— occipitalis, 322.
Eurypyga helias, 227.
Eurystomus gularis, 200.
Euspiza americana, 18.
—— melanocephala, 33.

Falco æsalon, 44, 338.
—— albicilla, 90.
—— alphanet, 188.
—— anatum, 63, 219.
—— aquilinus, 214.
—— ardesiacus, 338.
—— barbarus, 87, 184, 188, 287, 289.
—— biarmicus, 24, 44, 87.
—— brachypterus, 218.
—— candicans, 85, 414.
—— cervicalis, 24, 44.
—— cherrug, 24.
—— communis, 404.
—— concolor, 159, 338.
—— dichrous, 108, 324.
—— eleonoræ, 159, 189, 338.
—— femoralis, 219.
—— gracilis, 218.
—— grœnlandicus, 24, 469.
Falco gyrfalco, 85.
—— gyrfalco norvegicus, 85.
—— haliæëtus, 63.
—— hemidactylus, 218.
—— islandicus, 24, 85, 414, 469.
—— jugger, 87.
—— lanarius, 24, 43, 86, 186, 284.
—— leucocephalus, 90.
—— norvegicus, 24.
—— novæ hollandiæ, 276.
—— percontator, 218.
—— peregrinoïdes, 87, 95, 185.
—— peregrinus, 24, 44, 63, 185, 288, 390.
—— punicus, 24, 158, 159, 184, 284.
—— rufipes, 338.
—— sacer, 24, 44, 186, 284.
—— saker, 86.
—— sparverius, 63.
—— subbuteo, 338.
—— tachardus, 94.
—— tanypterus, 339.
—— tinnunculus, 45, 462.
—— urubitinga, 215.
—— xanthothorax, 218.
Felis catus, 157.
Florida cærulea, 226.
Florisuga mellivora, 128.
Formicivora boucardi, 119.
Fratercula arctica, 172.
—— glacialis, 172.
Fregata aquila, 369.
Fringilla bicolor, 147.
—— borealis, 254.
—— chloris, 313.
—— cœlebs, 33, 159.
—— linota, 375.
—— moreleti, 322.
—— spodiogenia, 159, 313.
Fringillaria saharæ, 295.
—— septemstriata, 343.
Fulica americana, 230, 260.
—— atra, 357, 361.
—— chloropus, 373.
—— cristata, 361.
Fuligula affinis, 231, 366.
—— cristata, 363.
—— ferina, 357, 363.
—— marila, 165.
Fulix affinis, 366.
Furnarius (Opetiorhynchus) minor, 108.

Galbula melanogenia, 5, 131.
Galeoscoptes carolinensis, 7
Galerida abyssinica, 425, 431.
—— arenicola, 58, 426, 431.
—— cristata, 34, 314, 422, 425, 431.
—— isabellina, 425, 431.
—— macrorhyncha, 57, 426, 431, 432.
—— randonii, 106.
Gallinago ——?, 228.
—— wilsoni, 228, 258.
Gallinula chloropus, 249, 260, 356, 361.
—— galeata, 260, 373.
—— pumila, 249.
Gallophasis albocristatus, 319.
—— horsfieldi, 319.
—— melanotus, 319.
Gambetta flavipes, 229, 257.
—— melanoleuca, 229.
Garrulus cervicalis, 32, 159, 199, 312.
—— coronatus, 22.
—— glandarius, 32, 142.
—— krynickii, 199.
—— melanocephalus, 32, 199.
Garzetta candidissima, 226.
Gavia brunneiceps, 41.
Gazzola typica, 113.
Gecinus levaillantii, 315.
—— vaillantii, 159.
—— viridis, 315.
Gelochelidon anglica, 358, 364.
—— macrotarsa, 455.
Gennæus nycthemerus, 319.
Geocichla erythronota, 113.
—— innotata, 201, 465.
—— interpres, 113.
Geococcyx affinis, 134.
Geoffroius aruensis, 112, 200.
—— cyaneicollis, 112.
—— personatus, 112, 200, 210.
—— pucherani, 210.
Geothlypis macgillivrayii, 10.
—— philadelphica, 10.
—— trichas, 10.
Geranospiza cærulescens, 218.
Glareola limbata, 345.
—— pratincola, 354, 356.

Glaucidium jardinii, 220.
—— infuscatum, 220.
Geronticus hagedash, 248.
Gracula javanica, 465.
Graculus elegans, 204.
Grallaria guatemalensis, 119.
Grus cinerea, 36, 50, 191, 355.
Guiraca abeillii, 19.
Gulo borealis, 196.
Gymnocichla nudiceps, 119
Gymnoglaux nudipes, 64.
Gypaëtos (barbatus?), 23.
—— nudipes, 23.
Gypaëtus barbatus, 84, 176, 282.
Gyparchus papa, 214.
Gypohierax angolensis, 108.
Gyps fulvus, 23, 42, 178, 180, 235, 236, 279, 390.

Hæmatopus ostralegus, 345.
—— palliatus, 228.
Hæmatornis cheela, 211, 465.
Hæmophila rufescens, 18.
Halcyon chelicuti, 340.
—— chlorocephala, 339.
—— coromanda, 465.
—— coromandelianus, 201.
—— fuscicapilla, 243.
—— lazuli, 210.
—— semicærulea, 340.
—— smyrnensis, 201, 465.
Haliaëtus albicilla, 90.
—— blagrus, 328.
—— leucocephalus, 89.
—— leucogaster, 239.
—— vocifer, 238, 328.
Haliastur sphenurus, 276.
Harelda glacialis, 174.
Harpactes duvauceli, 319.
—— rutilus, 319.
Harpagus bidentatus, 219.
Hedymeles ludovicianus, 17.
Helianthea lutetiæ, 400.
Helidoxa jacula, 100.
Heliomaster constanti, 129.
Heliopœdica melanotis, 100, 130.
Heliornis fulica, 234.
—— impipi, 250.
Helminthophaga pinus, 11.
Helmitherus vermivorus, 11.
Helodromas ochropus, 257.
Helotarsus ecaudatus, 238, 338.
Hemipodius tachydromus, 79.
Hemiprocne zonaris, 125, 466.
Herodias egretta, 226.
—— flavirostris, 249.
—— garzetta, 356, 357.
—— russata, 357.
—— schistacea, 346.
—— virescens, 261.
Herpetotheres cachinnans, 215.
Hierofalco sacer, 414.
Himantopus candidus, 260.
—— melanopterus, 53, 356, 360, 395.
—— nigricollis, 228, 258.
Hippolais pallida, 418.
—— polyglotta, 306, 418.
—— salicaria, 28.
Hirundo americana, 66.
—— horreorum, 13, 66.
—— riparia, 462.
—— rufula, 27.
—— rufula?, 462.
—— rupestris, 47.
—— rustica, 27, 47, 67, 139, 146, 302, 304, 334, 339, 434.
—— zonaris, 125.
Histrionicus torquatus, 162.
Hoplopterus cayanus, 228.
—— spinosus, 36, 51.
Houbara undulata, 353.
Hydrochelidon fissipes, 365.
Hylomanes gularis, 131.
Hypotriorchis concolor, 159
—— eleonoræ, 25, 87, 189, 289.
—— femoralis, 219.
—— ferrugineus, 322.
—— rufigularis, 219.
—— subbuteo, 25, 290, 390.
Hystrix cristata, 157.

Ibis falcinellus, 357, 359.
—— religiosa, 51, 347.
—— rubra, 467.
Ibycter americanus, 214.
Icteria longicauda, 12.
—— polyglotta, 12.
—— velasquezi, 12.
Icterus affinis, 20, 466.
—— baltimorensis, 20.
—— cucullatus, 20, 466.
—— giraudi, 20.
—— gularis, 19, 468.
—— pectoralis, 20.
—— prosthemelas, 20.
Icterus spurius, 20.
—— wagleri, 20, 468.
Ictinia plumbea, 220.
Inca mystacalis, 328.
Indicator minor, 247.
Iolæma frontalis, 111.
Irena puella, 211, 465.
Ischnosceles niger, 218.
Ispidina picta, 153, 246.
Ixos arsinoë, 38, 341.
—— capensis, 38.
—— obscurus, 160, 311, 388, 455.
—— vallombrosæ, 30, 41.
—— xanthopygius, 30, 38, 388.

Juida nitens, 105.
Junco dorsalis, 110.

Kittacincla albiventris, 114, 465.
—— ——, sp. nov., 201.

Læmodon melanocephalus, 343.
Lagopus albus, 170.
—— hemileucurus, 101, 170, 329.
—— mutus, 170.
Lampornis aurulentus, 100, 375.
—— gramineus, 100.
—— porphyrurus, 100.
—— prevosti, 100.
—— veraguensis, 100.
Lamprolæma rhami, 129, 468.
Laniarius cruentatus, 342.
Lanio aurantius, 15.
Lanius algeriensis, 159, 312.
—— cucullatus, 31.
—— dealbatus, 279, 433.
—— excubitor, 47, 146, 331, 427.
—— lahtora, 342.
—— meridionalis, 159, 312.
—— minor, 31, 41, 342.
—— phœnicurus, 459.
—— rufus, 312.
—— ——, var., 41.
—— somalicus, n. sp., 342.
—— spinitorques, 342.
Larus argentatus, 38.
—— atricilla, 371.
—— audouinii, 38, 55.
—— fuscus, 37, 349.
—— glaucus, 167.
—— hemprichii, 350.
—— leucophæus, 349.
—— leucophthalmus, 349.

Larus marinus, 168.
—— ridibundus, 371.
—— rossii, 173, 459.
—— sabini, 173.
—— suckleyii, 110.
Legatus variegatus, 123, 442
Leptoptila albifrons, 222.
Lepus mediterraneus, 157.
Lesbia amaryllis, 399.
Lestris parasiticus, 212.
—— pomarinus, 173.
Limicola pygmæa, 348.
Limosa ——?, 257.
—— fedoa, 230.
—— rufa, 212.
—— rufa (?), 347.
Linaria cannabina, 313.
Linota linaria, 34.
Lipaugus rufescens, 124.
Lobipes hyperboreus, 464.
Locustella savii, 356.
Lophophorus impeyanus, 319.
Lophornis helenæ, 130.
Lophostrix stricklandi, 221.
Lorius cardinalis, 200.
—— cyanauchen, 201.
—— ruber, 210.
—— superbus, 201, 211.
—— tricolor, 201, 210.
Loxia curvirostra, 315.
—— pityopsittacus, 408.
Lusciniopsis hendersonii, 205.
—— japonica, 205.
—— savii, 418.
Lutra vulgaris, 157.
Lycaste skinneri, 3.

Malacocichla dryas, 1.
—— mexicana, 7.
Malurus coronatus, 454.
—— sahara, 106, 202, 419.
Manacus caudæi, 124.
Mareca americana, 231, 368.
—— penelope, 364.
Megabyas bicolor, 394.
—— flammulatus, 394.
Melanerpes formicivorus, 137.
—— portoricensis, 377.
Melanocorypha calandra, 34, 315, 425.
—— clot-bey, 424.
Melanoptila glabrirostris, 7.
Melanotis hypoleucus, 7.
Meleagris ocellata, 5, 225.
Melisuga minima, 466.
Melizophilus provincialis, 28, 418.
Menura superba, 203.
Mergus albellus, 75, 212.
Meropogon breweri, 328.
Merops apiaster, 27, 47, 303, 435, 462.
—— boleslavskii, 108.
—— cuvieri, 340.
—— persicus, 27.
—— superciliosus, 340.
—— viridis, 47.
Merula albocincta, 319.
—— boulboul, 319.
—— castanea, 319.
—— poliocephala, 455.
—— unicolor, 100.
Micrastur concentricus, 218
—— ruficollis, 218.
—— semitorquatus, 218.
Microcarbo algeriensis, 106, 159.
—— pygmæus, 159.
Microchera albicoronata, 100.
Microglossa aterrima, 210.
Micronisus gabar, 26, 87.
Micropalama himantopus, 229.
Microsittace souancii, 202.
Milvago megalopterus, 463.
Milvulus forficatus, 121, 439.
—— monachus, 121, 439.
—— tyrannus, 121, 439.
Milvus ægyptiacus, 184.
—— ægyptius, 45, 207, 290, 462.
—— ater, 24, 45, 180, 184, 207, 358.
—— forskahli, 94.
—— govinda, 94.
—— melanotis, 94.
—— migrans, 94.
—— parasiticus, 24.
—— parasitus, 239, 240, 242, 339.
—— regalis, 183, 290.
Mimus carolinensis, 459.
—— gracilis, 7.
—— gundlachii, 456.
—— leucospilus, 108.
—— peruvianus, 108.
Mionectes assimilis, 124, 445.
Mitrephorus fulvifrons, 442.
—— phæocercus, 122, 442.
Mniotilta varia, 10, 143.
Momotus lessoni, 131.
—— yucatanensis, 132.
Monarcha castaneiventris, 105.
Monticola cyanea, 296, 311, 387.
—— saxatilis, 296, 311.
Motacilla alba, 31, 41, 48, 310, 341, 420.
—— lugubris, 48.
—— neglecta, 48.
—— pensilis, 375.
Mus chamæropsis, 290.
—— decumanus, 156.
—— manei, 465.
—— musculus, 157.
—— rattus, 157.
—— sylvaticus, 157.
Muscicapa ——?, 31.
—— albicollis, 31.
—— atricapilla, 31.
—— dominicensis, 146.
—— fulvifrons, 442.
—— grisola, 41, 342.
—— luctuosa, 311.
—— texensis, 123, 443.
Muscipeta speciosa, 328.
Muscivora mexicana, 124, 443, 445.
—— swainsonii, 108.
Mycetes palliatus, 3.
Myiabeillia typica, 128.
Myiadestes elizabethæ, 110.
—— obscurus, 14.
Myiagra plumbea, 394.
—— rubecula, 393.
—— rufiventris, 393.
Myiarchus cinerascens, 121, 440.
—— cooperi, 122, 440.
—— crinitus, 121, 440.
—— fuscus, 440.
—— lawrencii, 121, 440.
—— mexicanus, 121, 440.
Myiobius sulphureipygius, 442.
Myiodioctes canadensis, 11.
—— mitratus, 11.
—— pusillus, 11.
Myiodynastes luteiventris, 120, 438.
Myiozetetes texensis, 123, 443, 468.

Nectarinia, av. juv., 340.
—— habessynica, 340.
Neophron percnopterus, 23, 42, 177–180, 236, 282, 337, 358, 390.
—— pileatus, 236, 337.
Nesopsar nigerrimus, 457.
Nestor esslingii, 454.
—— hypopolius, 454.
—— notabilis, 454.

Nettapus madagascariensis, 251.
Nilaus capensis, 342.
Nisus chionogaster, 218.
Noctua nudipes, 46.
Numenius arquata, 53.
—— tenuirostris?, 37, 347, 359.
Numida plumifera, 206.
—— ptilorhyncha, 343.
Nyctherodias violaceus, 262.
Nyctiardea gardenii, 263.
Nycticorax europæus, 51.
—— gardeni, 227.
—— griseus, 359.
Nyctidromus americanus, 125.
—— derbianus, 125.
Nyroca leucophthalma, 356, 364.

Ocyalus wagleri, 19.
Odontoglossum grande, 3.
Odontophorus guttatus, 226.
Œdicnemus affinis, 344.
—— australis, 336.
—— crepitans, 36, 51, 354.
Œna capensis, 343.
Oligura microura, 340.
Onychoprion fuliginosus, 371.
Oporornis formosa, 10.
Oreocincla aurea, 384, 386, 388.
—— dauma, 380, 384.
—— lunulata, 384.
Oreophasis derbianus, 4, 5, 224.
—— fronticornis, 224.
—— chimborazo, 208, 399.
—— pichinchæ, 115.
Oreotrochilus pichincha, 399, 463.
Oriolus cayennensis, 374.
—— chinensis, 211.
—— coronatus, 465.
—— galbula, 145, 341.
—— indicus, 211.
—— macrourus, 211.
—— tenuirostris, 211.
Orpheus lividus, 459.
Ortalida leucogastra, 224.
—— vetula, 224.
Orthorhynchus cristatus, 141.
—— exilis, 141, 375.
Ortyx leylandi, 226.
—— nigrigularis, 225.
Ortyx virginianus, 254.
Otis arabs, 344.
—— heuglinii, 344.
—— tarda, 36.
—— tetrax, 36, 191, 353.
Otocorys bilopha, 421.
Otogyps, 201.
—— auricularis, 84, 235.
—— nubicus, 280, 282.
Oxylophus glandarius, 316.
—— serratus, 246.

Pachyrhamphus aglaiæ, 124.
—— polychropterus, 124.
Pagophila eburnea, 171.
Palæornis affinis, 100.
—— columboides, 100.
—— derbianus, 100.
—— malaccensis, 100.
—— schisticeps, 100.
Pandion carolinensis, 63, 215.
—— haliaëtus, 43, 183, 239, 337, 365.
Panyptila melanoleuca, 5, 125.
Paradisea apoda, 111.
—— papuana, 111.
—— regia, 111.
—— rubra, 111.
—— superba, 111.
—— (Semioptera) wallacii, 210.
Parmoptila woodhousii, 328.
Parra africana, 249.
—— cordifera, 231.
—— gymnostoma, 231.
Parula americana, 10, 143.
—— superciliosa, 10.
Parus cæruleanus, 157.
—— cæruleus, 310.
—— cinereus, 100.
—— dichrous, 319.
—— ledouci, 157, 159, 310.
—— major, 31, 310.
—— melanolophus, 319.
—— minor, 100.
—— monticolus, 100.
—— pendulinus, 458.
—— rubidiventris, 319.
—— rufonuchalis, 319.
—— sibiricus, 212.
—— ultramarinus, 159, 310.
Passer cisalpinus, 33, 48.
—— hispaniolensis, 48.
—— italiæ, 293.
—— montanus, 33.
Passer salicarius, 293.
—— salicicola, 33, 48, 314, 356.
Passerculus lincolni, 18.
Pastor roseus, 33.
Patagiœnas leucocephalus, 253.
Patagona gigas, 399.
Pelecanus crispus, 37.
—— erythrorhynchus, 233.
—— fiber, 369.
—— fuscus, 233.
—— onocrotalus, 54.
—— rufescens, 352.
—— sula, 369.
Pelicanus fuscus, 368.
Pendulinus dominicensis, 374.
Penelope albiventer, 224.
—— cujubi, 108.
—— leucogastra, 224.
—— nigra, 224.
—— purpurascens, 223.
—— vetula, 224.
Pephotus chrysopterygius, 454.
Perdix petrosa, 35.
Pericrocotus peregrinus, 211, 465.
Perisoreus infaustus, 212.
Peristera brachyptera, 222.
—— cinerea, 222.
—— erythroptera, 327.
Pernis apivorus, 240, 390.
Petasophora cyanotis, 376.
—— thalassina, 127, 468.
Petrochelidon bicolor, 13.
—— thalassina, 13.
Petrocincla cyanea, 30, 47.
—— homochroa, 101.
—— saxatilis, 29.
Petroica? cerviniventris, 455.
Petronia stulta, 33.
Phæolæma rubinoides, 100.
Phaëthon æthereus, 105.
—— flavirostris, 105.
Phaëthornis adolphi, 126.
—— cephalus, 100, 126.
—— obscurus, 100.
—— superciliosus, 100.
—— viridicaudata, 100.
Phaëton ——?, 370.
—— æthereus, 351, 370.
Phalacrocorax, sp., 352.
—— ——?, 370.
—— mexicanus, 233.
Phalænopsis jardinii, 220.
Phalaropus fulicarius, 174.

Phalaropus lobatus, 464.
Pharomacrus mocinno, 132.
—— paradiseus, 2, 5, 132, 467.
Phasianus crawfurdi, 474.
—— mongolicus, 100.
Phasidus niger, 206.
Philomela luscinia, 308, 462.
Philsuma cepidianum, 466.
Phœnicophaus callirhynchus, 113.
Phœnicopterus antiquorum, 361.
—— erythræus, 348.
—— ruber, 365.
Phœnicothraupis rubicoides, 15.
Pholidornis rushiæ, 110.
Phonipara bicolor, 147, 376, 378.
Phyllopneuste bonellii, 28.
—— borealis, 459.
—— eversmanni, 459.
—— rufa, 28.
—— trochilus, 143.
Phylloscopus bonellii, 418.
—— rufus, 306, 418.
—— sibilatrix, 306.
—— trochilus, 306, 418.
Piaya erythropygia, 133.
Pica beecheyii, 105.
—— cooki, 199.
—— cyanea, 199.
—— mauritanica, 78, 157, 159, 292, 312, 316.
Picolaptes ——?, 117.
—— affinis, 117.
—— capistratus, 8.
Picus ——?, 150.
—— canus, 264.
—— cruentatus, 391.
—— dubius, 136.
—— jardinii, 136.
—— leuconotus, 264.
—— major, 264.
—— martius, 264.
—— medius, 264.
—— minor, 264.
—— numidicus, 157, 159, 315.
—— parvus, 136.
—— portoricensis, 377.
—— scalaris, 136.
—— tridactylus, 264, 404.
—— viridis, 264.
Pionus senilis, 138.
Pipra elegantissima, 16.
—— fastuosa, 124.
—— linearis, 124.
—— mentalis, 125.
Pitangus derbianus, 120, 438.
Pithecus innuus, 156.
Pitta maxima, 112.
Platalea ajaja, 467.
—— leucorodia, 51, 346.
Platypsaris affinis, 394.
—— aglaiæ, 394.
Platyrhynchus albiventris, 393.
—— cancroma, 445.
—— pusillus, 441.
Plectrophanes nivalis, 170.
Plotus anhinga, 233.
—— levaillantii, 251.
Pluvianus ægyptius, 52.
Podica petersii, 250.
—— senegalensis, 250.
Podiceps ——?, 234.
—— auritus, 349, 364.
—— cristatus, 364.
—— minor, 348, 364.
Podilymbus podiceps, 234.
Podoa personata, 466.
Pœcilonetta erythrorhyncha, 251.
Poëphila paddoni, 103.
Pogonias bidentatus, 153.
Polioptila cærulea, 9.
—— mexicana, 9.
Polyboroides radiatus, 153, 237.
Polyborus tharus, 214.
Pomatorhinus ruficeps, 102.
Pontoaëtus leucoryphus, 88
—— macei, 89.
Porphyrio hyacinthinus, 357, 361.
—— martinica, 230.
—— smaragnotis, 249.
Porzana carolina, 230, 260.
Pratincola pastor, 415.
—— rubetra, 415.
—— rubicola, 307, 415.
Prionirhynchus carinatus, 132.
Procellaria diabolica, 372.
—— glacialis, 168, 372.
—— hæsitata, 372.
—— meridionalis, 372.
Progne dominicensis, 13, 466.
Psarisoma dalhousiæ, 466.
Psilorhinus morio, 22.
Psittacula lineolata, 137.
Psittacus aruensis, 112.
—— flavinuchus, 138.
—— personatus, 200.
—— tui, 374.
Psophia leucoptera, 336.
Pternistes rubricollis, 343.
Pterocles ——?, 35.
—— alchata, 352.
—— arenarius, 35, 286, 353
—— exustus, 35, 50.
—— guttatus, 286.
—— lichtensteinii, 343.
—— senegalensis, 50.
—— setarius, 35, 79, 286.
Pterocyanea circia, 363, 366.
Pteroglossus torquatus, 135.
Ptilogonys cinereus, 13.
Puffinus, sp., 349.
—— anglorum, 372.
—— obscurus, 397.
Putorius boccamela, 157.
Pycnonotus jocosus, 201, 465.
Pyranga æstiva, 15.
—— erythromelæna, 15.
—— hepatica, 15.
—— ludoviciana, 15.
—— roseogularis, 15.
Pyrgisoma biarcuatum, 5, 18.
Pyrocephalus mexicanus, 442.
—— rubineus, 442.
Pyrrhocorax alpinus, 313.
—— graculus, 292, 313, 358.
Pyrrhula aurantia, 100.
—— coccinea, 322.
—— githaginea, 459.
—— raptor, 14.
—— vulgaris, 147.
Pyrrhulauda crucigera, 343.
—— leucotis, 343.

Querquedula carolinensis, 231.
—— discors, 231.
Quiscalus macrurus, 20, 213.
—— sumichrasti, 322.

Rallus aquaticus, 249, 357, 360.
—— crepitans, 260.
—— longirostris, 260.
Ramphocelus passerinii, 5, 16, 467.
—— sanguinolentus, 16.
Recurvirostra avocetta, 357, 359.
—— himantopus, 258.
Regulus calendula, 8.
Rhamphastos carinatus, 135.

Rhamphocoris clot-bey, 161 424, 433.
Rhea americana, 115.
—— darwinii, 115.
Rhyacophilus glareola, 257.
—— solitarius, 229, 257.
Rhynchæa bengalensis, 53.
—— capensis, 153.
Rhynchaspis clypeata, 37.
Rhynchops flavirostris, 349.
—— nigra, 371.
Rissa septentrionalis, 110.
—— tridactyla, 169.
Rostrhamus sociabilis, 219.
Ruticilla moussieri, 159, 279, 307, 416.
—— phœnicura, 144, 308.
—— tithys, 29, 308, 416.

Sagittarius secretarius, 237.
Salicaria arundinacea, 468.
—— turdoïdes, 28.
Saltator atriceps, 14.
—— atripennis, 114.
—— grandis, 14.
—— icterophrys, 14.
—— magnoides, 14.
Sarciophorus pileatus, 345.
Sarcorhamphus papa, 326.
Saurophagus derbianus, 120, 438.
—— guatemalensis, 120.
—— rufipennis, 438.
—— sulphuratus, 438.
Saurothera dominicensis, 378.
—— merlini, 378.
—— vetula, 378.
—— vieillotii, 378.
Saxicola ——?, 29.
—— amphileuca, 39.
—— aurita, 300, 307.
—— cachinnans, 48.
—— deserti, 300, 341.
—— erythræa, 41.
—— eurymelæna, 29, 38.
—— halophila, 59, 301.
—— homochroa, 59, 301, 432.
—— isabellina, 59.
—— leucomela, 29, 48, 300.
—— leucura, 306.
—— libanotica, 39.
—— lugens, 29, 48, 300.
—— melanura, 341.
—— œnanthe, 39, 300, 306.
—— philothamna, 58, 299, 300.
—— rubetra, 29, 307.
—— rubicola, 29, 39.
—— ruficeps, 299.
Saxicola rostrata, 39.
—— saltatrix, 29, 341.
—— stapazina, 48, 300, 307, 341, 432.
Sayornis aquatica, sp. nov., 119.
—— cineracea, 119.
—— fusca, 440.
—— nigricans, 119, 438.
—— pallida, 438.
—— sayus, 438.
Scaphorhynchus mexicanus, 120, 438.
Scardafella inca, 223.
Sciurus dorsalis, 3.
Sclerurus guatemalensis, 118.
Scolopax brehmii, 258.
—— gallinago, 53, 258, 360.
—— gallinula, 53.
Scops ——?, 221.
—— brasiliensis, 221.
—— m'callii, 220.
—— portoricensis, 377.
—— usta, 221.
—— zorca, 26, 190, 291.
Scopus umbretta, 248, 347.
Scotopelia peli, 445.
Seiurus aquaticus, 142.
Selasphorus heloisæ, 129, 468.
—— platycercus, 129.
Selenidera spectabilis, 110, 206.
Semioptera wallacii, 332, 454.
Serinus meridionalis, 313.
Setophaga flammea, 12.
—— intermedia, 12.
—— miniata, 12.
—— picta, 12.
—— ruticilla, 12, 144.
Sialia wilsoni, 8, 104.
Sitta europæa, 28.
—— syriaca, 27.
Siurus auricapillus, 9, 142.
—— noveboracensis, 10, 142.
Somateria mollissima, 167.
—— spectabilis, 174.
—— v.-nigrum, 201.
Sorex araneus, 157.
—— fodiens, 157.
Sparvius gilvicollis, 218.
—— niger, 87.
—— ruficollis, 218.
—— semitorquatus, 218.
Spatula clypeata, 231, 356, 363.
Spatula variegata, 455.
Spermophila bicolor, 147, 468.
—— moreletii, 17, 468.
Sphyropicus varius, 136.
Spilornis bacha, 328.
—— rufipectus, 113.
Spizaëtus melanoleucus, 215.
—— occipitalis, 238.
—— ornatus, 215.
—— tyrannus, 215.
Stercorarius parasiticus, 172.
Sterna, sp., 351.
—— affinis, 38, 350.
—— anglica, 54, 328.
—— caspia, 37, 350, 351.
—— cayana, 371.
—— fuliginosa, 350, 371, 466.
—— infuscata, 350.
—— leucoptera, 37.
—— macroura, 167.
—— meridionalis, 328, 351.
—— minuta, 351.
—— senegalensis, 351.
—— velox, 350.
Sternoclyta cyaneipectus, 100.
Stoparola deserti, 202, 417.
Strepsilas interpres, 256.
Streptocitta albicollis, 113.
Struthio camelus, 115, 343.
Strigiceps swainsonii, 88.
Strix capensis, 242.
—— flammea, 26, 46.
—— lapponica, 212.
—— nudipes, 64, 66.
—— numida, 190.
—— passerinoides, 220.
—— pratincola, 222.
Strobilophaga enucleator, 212.
Sturnella hippocrepis, 19.
Sturnia erythropygia, 201.
Sturnopastor contra, 211.
—— niger, 211.
Sturnus unicolor, 293, 313.
—— vulgaris, 33, 49, 293.
Sula capensis, 352.
—— cyanops, 352.
—— dactylatra, 352.
—— fiber, 233.
—— fusca, 151, 369.
—— melanops, 351.
Sus andamensis, 465.
—— scrofa, 157.
Sycobius cassinii, 392.

Sycobius nuchalis, 393.
Sylvia æstiva, 143.
—— americana, 143.
—— cinerea, 305, 341, 417.
—— citrinella, 143.
—— conspicillata, 305, 341, 417.
—— curruca, 417.
—— delicatula, 340.
—— deserticola, 58, 202, 417.
—— discolor, 144.
—— elaica, 159, 418.
—— galactotes, 159.
—— gracilis, 40.
—— maritima, 144.
—— melanocephala, 28, 41.
—— minuta, 144.
—— orphea, 306.
—— phœnicurus, 39.
—— provincialis, 329.
—— pusilla, 143.
—— semirufa, 39.
—— subalpina, 28, 341.
—— tolmiæi, 10.
—— turdoïdes, 356.
Sypheotides humilis, 344.
Synallaxis erythrothorax, 117.
Syrnium aluco, 391.
—— nebulosum, 221, 461.
—— occidentale, 461.
—— perspicillatum, 222.
—— virgatum, 221.
Syrrhaptes paradoxus, 204, 471, 472.
—— tibetanus, 471.

Tachornis iradii, 110.
Tachypetes aquila, 233, 369.
Tadorna rutila, 54.
—— vulpanser, 474.
Tænioptera obscura, 327.
Tanagra abbas, 16.
—— diaconus, 16.
—— vicarius, 16.
Tantalus ibis, 347.
—— loculator, 227.
Tanygnathus mülleri, 113.
Tatare otaitiensis, 327.
Tchitrea gaimardi, 200.
Temenuchus erythropygius, 465.
Tephrodornis grisola, 201, 465.
Teretristris fornsi, 110.
Tesia castaneo-coronata, 100.
Tesia cyaneiventris, 100.
Testudo mauritanica, 177.
Tetragonops rhamphastinus, 463.
Tetrao obscurus, 200.
Tetraogallus caucasicus, 116.
Thalasseus cantiacus, 364.
—— regius, 371.
Thalassidroma, sp., 349.
—— —— ?, 372.
—— bulweri, 372.
—— gracilis, 391.
—— wilsoni, 372, 392.
Thalurania columbica, 100.
—— eriphile, 100.
—— furcata, 100.
—— venusta, 100.
—— verticeps, 100.
Thamnophilus doliatus, 118.
—— melanurus, 119.
Thaumantias candidus, 467.
Thaumastura enicura, 129.
Thaumatias candidus, 130.
Thrasaëtus harpyia, 215.
Thresciornis religiosa, 153.
Thryothorus rufalbus, 8.
Tigrisoma tigrinum, 151, 226.
Tinactor guatimalensis, 118.
Tinamus cinnamomeus, 226.
—— major, 226.
Tinnunculus alaudarius, 25, 169, 184, 189, 290, 390.
—— atratus, 211.
—— cenchris, 25, 87.
—— rupicolus, 95, 240.
—— sparverius, 63, 146, 148, 219, 377, 378.
Tityra personata, 124.
Toccus erythrorhynchus, 103.
Todirhamphus collaris, 465
Todirostrum cinereigulare, 444.
—— cinereum, 124, 444.
—— schistaceiceps, sp. nov., 444.
Totanus calidris, 347, 359.
—— chloropygius, 257.
—— flavipes, 257.
—— fuscus, 212.
—— glareola, 248, 257, 347, 357.
—— glottis, 53, 347, 462.
—— hypoleucus, 53.
Totanus ochropus, 53, 359.
—— stagnatilis, 53, 347.
Toxostoma crissalis, 110.
—— rufum, 459.
Trachyphonus margaritatus, 343.
Treron phœnicoptera, 375.
Trichoglossus immarginatus, sp. nov., 201.
—— ochrocephalus, sp. nov., 201.
—— ornatus, 112, 113.
Tringa alpina, 258.
—— cinclus minor, 258.
—— maculata, 229, 258.
—— maritima, 171.
—— ochropus, 348.
—— pectoralis, 229, 258.
—— pusilla, 258.
—— schinzii, 258.
—— semipalmata, 229, 257.
—— solitaria, 257.
—— subarquata, 348.
—— temminckii, 53.
—— variabilis, 347.
—— wilsonii, 229.
Tringoïdes hypoleucus, 462.
—— macularius, 230, 257.
Trochilus colubris, 100, 129.
—— melanotus, 130.
Troglodytes aëdon, 9.
—— europæus, 28.
Trogon caligatus, 132.
—— citreolus, 132.
—— massena, 132.
—— melanocephalus, 132.
—— mexicanus, 132.
—— paradiseus, 132.
—— pavoninus, 132.
—— puella, 132.
—— xalapensis, 132.
Tryphæna duponti, 129.
Turdus anthracinus, 107.
—— aquaticus, 142.
—— atrigularis, 456.
—— aureus, 379.
—— aurocapillus, 142.
—— cyaneus, 384.
—— felivox, 7.
—— fuscater, 107, 142, 387.
—— grayii, 5.
—— iliacus, 384, 388.
—— longirostris, 327.
—— merula, 30, 38, 311, 384, 388.
—— migratorius, 142, 384, 387, 388.

Turdus minor, 402.
—— modestus, 101.
—— musicus, 30, 311, 384, 405.
—— mustelinus, 6, 384.
—— obscurus, 384.
—— olivaceus, 6.
—— pilaris, 384, 388.
—— ruficollis, 455.
—— rufitorques, 5, 6.
—— saxatilis, 38.
—— swainsoni, 6.
—— torquatus, 384.
—— unicolor, 101.
—— viscivorus, 311, 384, 388, 405.
—— whitii, 379.
Turnix africanus, 79.
—— coturnix, 353.
Turtur ægyptiacus, 35, 50, 318, 343.
—— auritus, 35, 318.
—— risorius, 343, 462.
—— senegalensis, 50.
Tyrannula cayennensis, 123, 443.
—— cinerascens, 440.
—— coronata, 442.
—— hammondii, 110.
—— lawrencii, 440.
—— mexicana, 121.
—— nigricans, 438.
—— pallida, 438.
Tyrannus sulphureipygius, 442.
—— audax ?, 438.
—— carolinensis, 439.
—— cassinii, 121, 439.
—— cooperi, 440.
—— couchii, 439.
—— crassirostris, 439.
—— dominicensis, 146, 148, 261, 378.
—— intrepidus, 120, 439.
—— melancholicus, 121, 439.
—— vociferans, 121, 439.

Upupa epops, 27, 49, 268, 304, 340, 435.
Uria brünnichii, 168.
—— grylle, 169.
—— mandti, 172.
—— troile, 174.
Ursus maritimus, 168.
Urubitinga ——?, 216.
—— anthracina, 216.
—— schistacea, 216.
—— unicincta, 216.
—— zonura, 215.

Vanellus cristatus, 52.
—— leucurus, 52.
—— villotæi, 52.
Vidua paradisea, 343.
Vireo cassinii, 110.
Vireo flavifrons, 12.
—— longirostris, 145.
—— noveboracensis, 140.
—— olivacea, 145.
Vireolanius icterophrys, 12
—— pulchellus, 12.
Vireosylvia altiloqua, 145, 466.
—— flavo-viridis, 12.
—— olivacea, 12.
—— philadelphica, 12.
Viverra sarmatica, 116.
Volatinia jacarina, 17.
Vultur monachus, 84, 201.
—— occipitalis, 235, 337.

Xema ——?, 54.
—— melanocephalum, 37.
Xiphocolaptes albicollis, 118.
—— emigrans, sp. nov., 118.

Yunx torquilla, 268.

Zanclostomus æneus, 248.
Zenaida amabilis, 253.
Zenaidura carolinensis, 222.
Zonotrichia matutina, 18.
—— pileata, 18.
Zosterops albigularis, 455.
—— tenuirostris, 455.

END OF VOL. I.

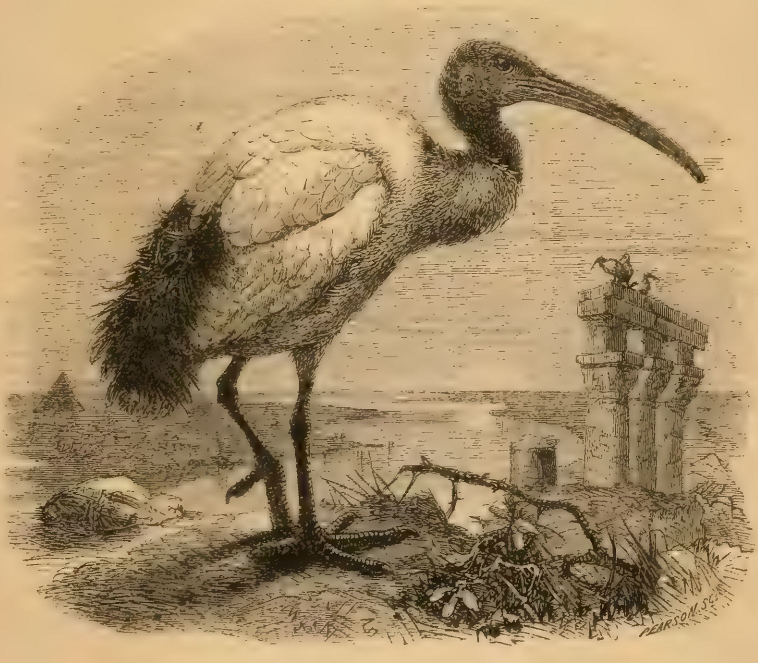
PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

Vol. I. No. 1. JANUARY 1859. *Price* 6s.

THE IBIS;

A MAGAZINE OF GENERAL ORNITHOLOGY.

EDITED BY
PHILIP LUTLEY SCLATER, M.A.,
FELLOW OF CORPUS CHRISTI COLLEGE, OXFORD,
F.L.S., F.Z.S. ETC.



LONDON:
N. TRÜBNER AND CO., 60, PATERNOSTER ROW.

Paris.
Fr. Klincksieck,
11, Rue de Lille.

Leipzig.
F. A. Brockhaus.

New York.
Wiley and Halsted,
351, Broadway.

TAYLOR AND FRANCIS, PRINTERS,] [RED LION COURT, FLEET STREET.

NEW PUBLICATIONS OF TRÜBNER AND CO.,

60, PATERNOSTER ROW, LONDON.

AGASSIZ.—CONTRIBUTIONS TO THE NATURAL HISTORY OF THE UNITED STATES OF AMERICA. By LOUIS AGASSIZ. *First Monograph.* In Three Parts.—I. Essay on Classification. II. North American Testudinata. III. Embryology of the Turtle; with Twenty-seven Plates. Vols. I. and II. 4to. Pp. lii. and 644. £7 : 7*s.*

AGASSIZ.—ESSAY ON CLASSIFICATION. By LOUIS AGASSIZ. *Second Edition.* With an Index, and Revised and Enlarged by the Author. In One Volume, 8vo. (In February.)

BAIRD.—THE MAMMALIA OF NORTH AMERICA, including Descriptions of all the known Species, chiefly contained in the Museum of the Smithsonian Institution. With 60 Plates, illustrating the Genera and Species, with details of their external form and Osteology. By Professor SPENCER F. BAIRD, of the Smithsonian Institution. Vol. I. 4to. (In March.)

BINNEY.—SUPPLEMENT to the TERRESTRIAL MOLLUSKS AND SHELLS OF THE UNITED STATES. The Plates will comprise over 150 Figures. By W. G. BINNEY. 8vo. Coloured. (In March.)

BREWER.—NORTH AMERICAN OOLOGY; being an Account of the Geographical Distribution of the Birds of North America during their Breeding Season, with Figures and Descriptions of their Eggs. By T. M. BREWER. 1 Vol. 4to. With Coloured Plates. (In March.)

CASSIN. — MAMMALOGY AND ORNITHOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, U.S.N., during 1839–42. By JOHN CASSIN. Text, 1 Vol. 4to. Pp. viii. and 466. Atlas in folio, half-bound, containing 53 Coloured Plates, 11 of Mammals and 42 of Birds. £15 : 15*s.*

GIRARD.—HERPETOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, during 1829–46. By CHARLES GIRARD. Text, 1 Vol. 4to. Pp. xviii. and 496. Atlas in folio, half-bound, 32 Coloured Plates. £10 : 10*s.*

Now ready, 44 pages, 8vo,

A CATALOGUE OF BOOKS in all Branches of NATURAL HISTORY published during the last Forty Years in the United States of America, and constantly on sale by

Trübner and Co., 60, *Paternoster Row, London.*

"This catalogue evinces a great deal of patient research, and is, we think, one of the most useful things of the sort yet published."—*Dublin Natural History Review*, 1858.

Just published, No. I., containing Eight Plates, price 10*s.*, of

OSTEOLOGIA AVIUM.

BY

T. C. EYTON, Esq., F.L.S., F.Z.S., F.G.S.,
and Corresponding Member of the Academy of Natural Sciences, Philadelphia.

Published by the Author,
To whom, and to Mr. Prince, at John Gould, Esq.'s, 20, Broad Street, Golden Square, London, applications may be made for Copies.

In One Vol. 8vo, price £2 : 2*s.*, with 45 Coloured Plates,

A

MONOGRAPH OF THE BIRDS

FORMING

THE TANAGRINE GENUS CALLISTE.

BY

PHILIP LUTLEY SCLATER, M.A.,
Fellow of Corpus Christi College, Oxford,
F.L.S., F.Z.S. &c.

John Van Voorst, 1, Paternoster Row.

Also, by the same Author,

A SYNOPSIS OF THE FISSIROSTRAL FAMILY

BUCCONIDÆ,

Accompanied by Four Coloured Plates of hitherto unfigured species.
1 Part, sewn, price 4*s.* 6*d.*

John Van Voorst, 1, Paternoster Row.

CONTENTS OF NUMBER 1.

Page

I. On the Ornithology of Central America. By **Philip Lutley Sclater** and **Osbert Salvin**. (Part I.) 1

II. Notes on Birds observed in Southern Palestine in the months of March and April 1858. By the Rev. H. B. **Tristram**, F.L.S. 22

III. Ornithological Reminiscences of Egypt. By E. **Cavendish Taylor**, M.A., F.Z.S. 41

IV. On the different Methods of preparing Natural Skeletons of Birds. By T. C. **Eyton**, F.Z.S. 55

V. Characters of apparently New Species of Birds collected in the Great Desert of the Sahara, southwards of Algeria and Tunis. By the Rev. H. B. **Tristram**, F.L.S. 57

VI. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th 1857 by **Alfred Newton**, and between March 4th and September 28th 1858 by **Edward Newton**. Part I. (Plate I.) 59

VII. On the Breeding of the Smew, *Mergus albellus*. By **John Wolley**, jun. 69

VIII. Recent Discoveries in European Oology. By **William C. Hewitson**. (Plate II.) 76

IX. Review of Mr. **Bree**'s "Birds of Europe not observed in the British Isles" 81

X. Recent Ornithological Publications...................... 99

XI. Extracts from Correspondence, Notices, &c. (Plate III.) .. 111

⁂ It is requested that all Communications for 'The Ibis' may be addressed, post-paid, to the Care of Messrs. Trübner and Co., 60, Paternoster Row, London, E.C. The annual subscription of £1 : 1*s*. should be paid to Messrs. Trübner and Co. direct; whereupon the subscriber, if resident in the United Kingdom, will receive the numbers post-free on the day subsequent to their publication.

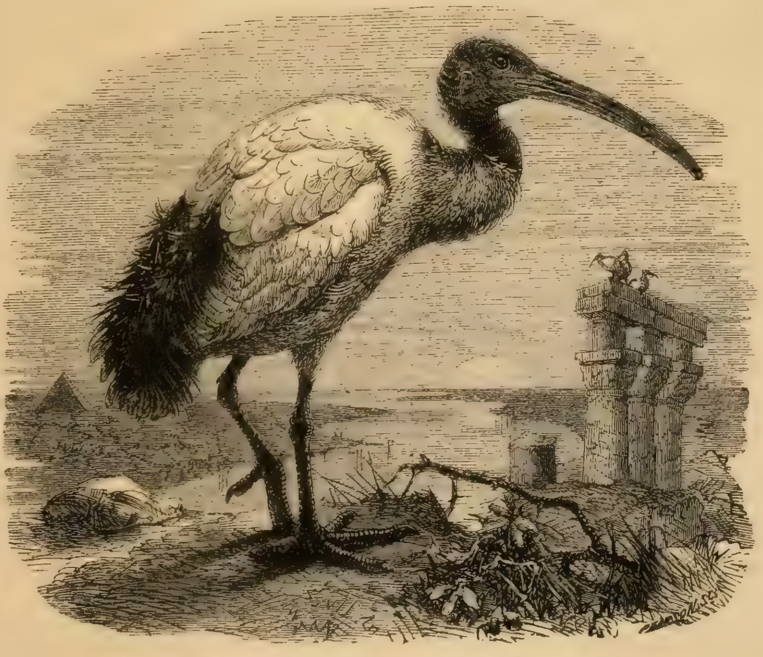
Vol. I. No. 2. APRIL 1859. *Price* 6s.

THE IBIS,

A MAGAZINE OF GENERAL ORNITHOLOGY.

EDITED BY

PHILIP LUTLEY SCLATER, M.A.,
FELLOW OF CORPUS CHRISTI COLLEGE, OXFORD,
F.L.S., F.Z.S. ETC.



LONDON:
N. TRÜBNER AND CO., 60, PATERNOSTER ROW.

Paris.
Fr. Klincksieck,
11, Rue de Lille.

Leipzig.
F. A. Brockhaus.

New York.
John Wiley,
56, Walker Street.

TAYLOR AND FRANCIS, PRINTERS,] [RED LION COURT, FLEET STREET.

NEW PUBLICATIONS OF TRÜBNER AND CO.,

60, PATERNOSTER ROW, LONDON.

AGASSIZ.—CONTRIBUTIONS TO THE NATURAL HISTORY OF THE UNITED STATES OF AMERICA. By Louis Agassiz. *First Monograph.* In Three Parts.—I. Essay on Classification. II. North American Testudinata. III. Embryology of the Turtle; with Twenty-seven Plates. Vols. I. and II. 4to. Pp. lii. and 644. £7 : 7*s.*

AGASSIZ.—ESSAY ON CLASSIFICATION. By Louis Agassiz. *Second Edition.* With an Index, and Revised and Enlarged by the Author. In One Volume, 8vo. 12*s.*

BAIRD.—THE MAMMALIA OF NORTH AMERICA, including Descriptions of all the known Species, chiefly contained in the Museum of the Smithsonian Institution. With 60 Plates, illustrating the Genera and Species, with details of their external form and Osteology. By Professor Spencer F. Baird, of the Smithsonian Institution. Vol. I. 4to. (In May.)

BAIRD.—THE BIRDS OF NORTH AMERICA. By Professor Spencer F. Baird. In One Volume, 4to, of 1064 pages and 75 Plates of hitherto unfigured species. (In May.)

BINNEY.—SUPPLEMENT to the TERRESTRIAL MOLLUSKS AND SHELLS OF THE UNITED STATES. The Plates will comprise over 150 Figures. By W. G. Binney. 8vo. Coloured. (In May.)

BREWER.—NORTH AMERICAN OOLOGY; being an Account of the Geographical Distribution of the Birds of North America during their Breeding Season, with Figures and Descriptions of their Eggs. By T. M. Brewer. 1 Vol. 4to. With Coloured Plates. (In May.)

CASSIN. — MAMMALOGY AND ORNITHOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, U.S.N., during 1839–42. By John Cassin. Text, 1 Vol. 4to. Pp. viii. and 466. Atlas in folio, half-bound, containing 53 Coloured Plates, 11 of Mammals and 42 of Birds. £15 : 15*s.*

GIRARD.—HERPETOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, during 1829–46. By Charles Girard. Text, 1 Vol. 4to. Pp. xviii. and 496. Atlas in folio, half-bound, 32 Coloured Plates. £10 : 10*s.*

Now ready, 44 pages, 8vo,

A CATALOGUE OF BOOKS in all Branches of NATURAL HISTORY published during the last Forty Years in the United States of America, and constantly on sale by

Trübner and Co., 60, *Paternoster Row, London.*

"This catalogue evinces a great deal of patient research, and is, we think, one of the most useful things of the sort yet published."—*Dublin Natural History Review*, 1858.

Just published, No. I., containing Eight Plates, price 10*s*., of

OSTEOLOGIA AVIUM.

BY

T. C. EYTON, Esq., F.L.S., F.Z.S., F.G.S.,
and Corresponding Member of the Academy of Natural Sciences, Philadelphia.

Published by the Author,
To whom, and to Mr. PRINCE, at JOHN GOULD, Esq.'s, 20, Broad Street, Golden Square, London, applications may be made for Copies.

In One Vol. 8vo, price £2 : 2*s*., with 45 Coloured Plates,

A

MONOGRAPH OF THE BIRDS

FORMING

THE TANAGRINE GENUS CALLISTE.

BY

PHILIP LUTLEY SCLATER, M.A.,
Fellow of Corpus Christi College, Oxford,
F.L.S., F.Z.S. &c.

John Van Voorst, 1, Paternoster Row.

Also, by the same Author,

A SYNOPSIS OF THE FISSIROSTRAL FAMILY

BUCCONIDÆ,

Accompanied by Four Coloured Plates of hitherto unfigured species.
1 Part, sewn, price 4*s*. 6*d*.

John Van Voorst, 1, Paternoster Row.

CONTENTS OF NUMBER II.

Page

XII. On the Ornithology of Central America. Part II. By **Philip Lutley Sclater** and **Osbert Salvin**. (Plates IV. and V.) 117

XIII. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th 1857 by **Alfred Newton**, and between March 4th and September 28th 1858 by **Edward Newton**. (Part II.) 138

XIV. Account of a Visit to a Nesting-place of the Frigate-bird (*Fregata aquila*). From a letter of **George Cavendish Taylor**, Esq. 150

XV. List of Birds received from Ibadan, in Western Africa. By **John Henry Gurney**, Esq., M.P.. 152

XVI. On the Ornithology of Northern Africa. By the Rev. H. B. **Tristram**, F.L.S. (Part I.) 153

XVII. Remarks on the Harlequin Duck (*Histrionicus torquatus*, Bp.). By **Alfred Newton**, M.A., F.L.S.............. 162

XVIII. Notes on the Birds of Western Spitzbergen, as observed in 1855. By **Edward Evans** and **Wilson Sturge** 166

XIX. Five Months' Birds'-nesting in the Eastern Atlas. By **Osbert Salvin**, Corr. Memb. Zool. Soc. Part I. (Plate VI.) 174

XX. On the Breeding of the Crane (*Grus cinerea*) in Lapland. By **John Wolley**, jun.............................. 191

XXI. Recent Ornithological Publications 198

XXII. Letters, Extracts from Correspondence, Notices, &c. 206

⁂ 'The Ibis' is published in four parts, at the beginning of each quarter, forming an annual volume of about 400 pages, illustrated by twelve coloured plates of birds and eggs.

It is requested that all Communications for the Editor may be addressed, post-paid, to the Care of Messrs. Trübner and Co., 60, Paternoster Row, London, E.C. The annual subscription of £1 : 1*s*. should be paid to Messrs. Trübner and Co. direct; whereupon the subscriber, if resident in the United Kingdom, will receive the numbers post-free on the day subsequent to their publication.

Vol. I. No. 3. JULY 1859. *Price* 6*s.*

THE IBIS,

A MAGAZINE OF GENERAL ORNITHOLOGY.

EDITED BY

PHILIP LUTLEY SCLATER, M.A.,
FELLOW OF CORPUS CHRISTI COLLEGE, OXFORD,
F.L.S., F.Z.S. ETC.

LONDON:
N. TRÜBNER AND CO., 60, PATERNOSTER ROW.

Paris.
Fr. Klincksieck,
11, Rue de Lille.

Leipzig.
F. A. Brockhaus.

New York.
John Wiley,
56, Walker Street.

TAYLOR AND FRANCIS, PRINTERS,] [RED LION COURT, FLEET STREET.

NEW PUBLICATIONS OF TRÜBNER AND CO.,

60, PATERNOSTER ROW, LONDON.

AGASSIZ.—CONTRIBUTIONS TO THE NATURAL HISTORY OF THE UNITED STATES OF AMERICA. By LOUIS AGASSIZ. *First Monograph.* In Three Parts.—I. Essay on Classification. II. North American Testudinata. III. Embryology of the Turtle; with Twenty-seven Plates. Vols. I. and II. 4to. Pp. lii. and 644. £7 : 7*s.*

AGASSIZ.—ESSAY ON CLASSIFICATION. By LOUIS AGASSIZ. *Second Edition.* With an Index, and Revised and Enlarged by the Author. In One Volume, 8vo. 12*s.*

BAIRD.—MAMMALS OF NORTH AMERICA. The Descriptions of Species based chiefly on the Collections in the Museum of the Smithsonian Institution. By Prof. SPENCER F. BAIRD, Assistant Secretary of the Smithsonian Institution. With 87 Plates of Original Figures, coloured and plain, illustrating the Genera and Species, including details of External Form and Osteology. 4to. Pp. xxxiv. and 764. Philadelphia, 1859. £4 : 4*s.*

BAIRD.—THE BIRDS OF NORTH AMERICA. By Professor SPENCER F. BAIRD. In One Volume, 4to, of 1064 pages and 75 Plates of hitherto unfigured species. (In September.)

BINNEY.—THE TERRESTRIAL AIR-BREATHING MOLLUSKS OF THE UNITED STATES and the adjacent Territories of North America; described and illustrated by AMOS BINNEY. Edited by AUGUSTUS A. GOULD. 3 Vols. 8vo, with numerous Coloured and uncoloured Plates. £10 : 10*s.*

BINNEY.—SUPPLEMENT to the TERRESTRIAL MOLLUSKS AND SHELLS OF THE UNITED STATES. The Plates will comprise over 150 Figures. By W. G. BINNEY. 8vo. Coloured. (In September.)

BREWER.—NORTH AMERICAN OOLOGY; being an Account of the Geographical Distribution of the Birds of North America during their Breeding Season, with Figures and Descriptions of their Eggs. By T. M. BREWER. 1 Vol. 4to, with Coloured Plates. (In September.)

CASSIN. — MAMMALOGY AND ORNITHOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, U.S.N., during 1839–42. By JOHN CASSIN. Text, 1 Vol. 4to. Pp. viii. and 466. Atlas in folio, half-bound, containing 53 Coloured Plates, 11 of Mammals and 42 of Birds. £15 : 15*s.*

GIRARD.—HERPETOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, during 1829–46. By CHARLES GIRARD. Text, 1 Vol. 4to. Pp. xviii. and 496. Atlas in folio, half-bound, 32 Coloured Plates. £10 : 10*s.*

Now ready, 44 pages, 8vo,

A CATALOGUE OF BOOKS in all Branches of **NATURAL HISTORY** published during the last Forty Years in the United States of America, and constantly on sale by

Trübner and Co., 60, *Paternoster Row, London.*

"This catalogue evinces a great deal of patient research, and is, we think, one of the most useful things of the sort yet published."—*Dublin Natural History Review*, 1858.

Now ready (price 10*s.* each), Nos. I. and II. of

OSTEOLOGIA AVIUM.

BY

T. C. EYTON, Esq., F.L.S., F.Z.S., F.G.S.,
Corresponding Member of the Academy of Natural Sciences, Philadelphia.

Published by the Author,
To whom, and to Mr. Prince, at John Gould, Esq.'s, 20, Broad Street, Golden Square, London, applications may be made for Copies.

In One Vol. 8vo, price £2 : 2*s.*, with 45 Coloured Plates,

A

MONOGRAPH OF THE BIRDS

FORMING

THE TANAGRINE GENUS CALLISTE.

BY

PHILIP LUTLEY SCLATER, M.A.,
Fellow of Corpus Christi College, Oxford,
F.L.S., F.Z.S. &c.

John Van Voorst, 1, Paternoster Row.

Also, by the same Author,

A SYNOPSIS OF THE FISSIROSTRAL FAMILY

BUCCONIDÆ,

Accompanied by Four Coloured Plates of hitherto unfigured species.
1 Part, sewn, price 4*s.* 6*d.*

John Van Voorst, 1, Paternoster Row.

CONTENTS OF NUMBER III.

Page
XXIII. On the Ornithology of Central America. Part III. By Philip Lutley Sclater and Osbert Salvin. 213

XXIV. List of a Collection of Birds received from the Colony of Natal in South-Eastern Africa. By J. H. Gurney, M.P., F.Z.S. (Plate VII.) 234

XXV. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th 1857 by Alfred Newton, and between March 4th and September 28th 1858 by Edward Newton. Part III. 252

XXVI. Narrative of the discovery of some Nests of the Black Woodpecker (*Picus martius*) in Sweden. By W. H. Simpson, M.A. 264

XXVII. Notes on the Nesting of a pair of Eagle Owls (*Bubo maximus*) in confinement. By Edward Fountaine... 273

XXVIII. Characters of an undescribed species of Hawk from New Caledonia. By Philip Lutley Sclater. (Plate VIII.) 275

XXIX. On the Ornithology of Northern Africa. By the Rev. H. B. Tristram, F.L.S. Part II. The Sahara. (Plate IX.) 277

XXX. Five Months' Birds'-nesting in the Eastern Atlas. By Osbert Salvin, B.A., Corr. Memb. Zool. Soc. Part II. 302

XXXI. Recent Ornithological Publications 318

XXXII. Letters, Extracts from Correspondence, Announcements, &c. 329

⁂ 'The Ibis' is published in parts, at the beginning of each quarter, forming an annual volume of about 400 pages, illustrated by twelve coloured plates of birds and eggs.

It is requested that all Communications for the Editor may be addressed, post-paid, to the Care of Messrs. Trübner and Co., 60, Paternoster Row, London, E.C. The annual subscription of £1 : 1*s.* should be paid to Messrs. Trübner and Co. direct; whereupon the subscriber, if resident in the United Kingdom, will receive the numbers post-free on the day subsequent to their publication.

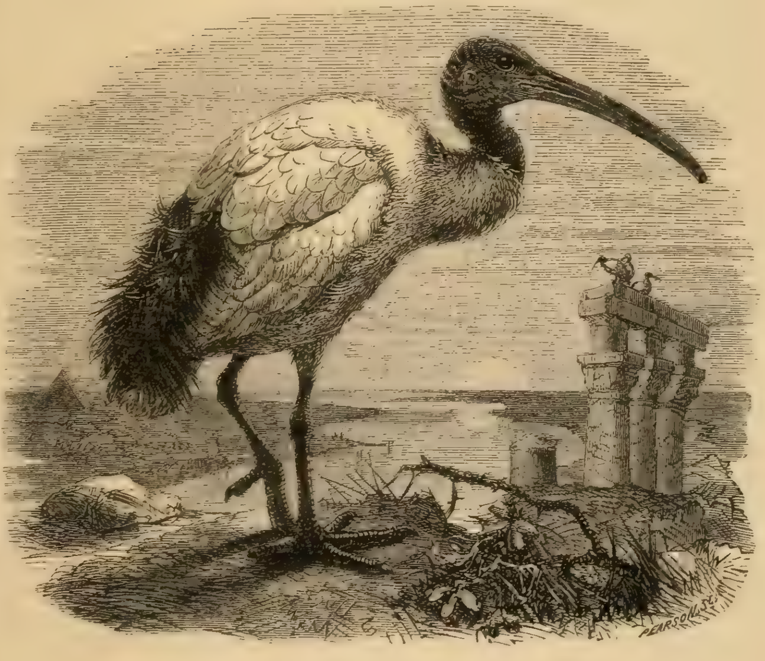
VOL. I. No. 4. OCTOBER 1859. [DOUBLE NUMBER.] *Price* 12*s*.

THE IBIS,

A MAGAZINE OF GENERAL ORNITHOLOGY.

EDITED BY

PHILIP LUTLEY SCLATER, M.A.,
FELLOW OF CORPUS CHRISTI COLLEGE, OXFORD,
F.L.S., F.Z.S. ETC.



LONDON:
N. TRÜBNER AND CO., 60, PATERNOSTER ROW.

Paris.
FR. KLINCKSIECK,
11, Rue de Lille.

Leipzig.
F. A. BROCKHAUS.

New York.
JOHN WILEY,
56, Walker Street.

TAYLOR AND FRANCIS, PRINTERS,] [RED LION COURT, FLEET STREET.

NEW PUBLICATIONS OF TRÜBNER AND CO.,

60, PATERNOSTER ROW, LONDON.

AGASSIZ.—CONTRIBUTIONS TO THE NATURAL HISTORY OF THE UNITED STATES OF AMERICA. By LOUIS AGASSIZ. *First Monograph.* In Three Parts.—I. Essay on Classification. II. North American Testudinata. III. Embryology of the Turtle; with Twenty-seven Plates. Vols. I. and II. 4to. Pp. lii. and 644. £7 : 7*s.*

AGASSIZ.—ESSAY ON CLASSIFICATION. By LOUIS AGASSIZ. *Second Edition.* With an Index, and Revised and Enlarged by the Author. In One Volume, 8vo. 12*s.*

BAIRD.—MAMMALS OF NORTH AMERICA. The Descriptions of Species based chiefly on the Collections in the Museum of the Smithsonian Institution. By Prof. SPENCER F. BAIRD, Assistant Secretary of the Smithsonian Institution. With 87 Plates of Original Figures, coloured and plain, illustrating the Genera and Species, including details of External Form and Osteology. 4to. Pp. xxxiv. and 764. Philadelphia, 1859. £4 : 4*s.*

BAIRD.—THE BIRDS OF NORTH AMERICA. By Professor SPENCER F. BAIRD. In One Volume, 4to, of 1064 pages and 75 Plates of hitherto unfigured species. (In January.)

BINNEY.—THE TERRESTRIAL AIR-BREATHING MOLLUSKS OF THE UNITED STATES and the adjacent Territories of North America; described and illustrated by AMOS BINNEY. Edited by AUGUSTUS A. GOULD. 3 Vols. 8vo, with numerous Coloured and uncoloured Plates. £10 : 10*s.*

BINNEY.—SUPPLEMENT to the TERRESTRIAL MOLLUSKS AND SHELLS OF THE UNITED STATES. The Plates will comprise over 150 Figures. By W. G. BINNEY. 8vo. Coloured. (In January.)

BREWER.—NORTH AMERICAN OOLOGY; being an Account of the Geographical Distribution of the Birds of North America during their Breeding Season, with Figures and Descriptions of their Eggs. By T. M. BREWER. 1 Vol. 4to, with Coloured Plates. £1 : 11*s.* : 6*d.*

CASSIN. — MAMMALOGY AND ORNITHOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, U.S.N., during 1839–42. By JOHN CASSIN. Text, 1 Vol. 4to. Pp. viii. and 466. Atlas in folio, half-bound, containing 53 Coloured Plates, 11 of Mammals and 42 of Birds. £15 : 15*s.*

GIRARD.—HERPETOLOGY OF THE UNITED STATES' EXPLORING EXPEDITION UNDER CAPTAIN WILKES, during 1829–46. By CHARLES GIRARD. Text, 1 Vol. 4to. Pp. xviii. and 496. Atlas in folio, half-bound, 32 Coloured Plates. £10 : 10*s.*

Trübner and Co., 60, Paternoster Row, London.

Now ready, 44 pages, 8vo,

A CATALOGUE OF BOOKS in all Branches of NATURAL HISTORY

published during the last Forty Years in the United States of America, and constantly on sale by

Trübner and Co., 60, Paternoster Row, London.

"This catalogue evinces a great deal of patient research, and is, we think, one of the most useful things of the sort yet published."—*Dublin Natural History Review,* 1858.

Now ready (price 10*s.* each), Nos. I. and II. of

OSTEOLOGIA AVIUM.

BY

T. C. EYTON, Esq., F.L.S., F.Z.S., F.G.S.,
Corresponding Member of the Academy of Natural Sciences, Philadelphia.
Published by the Author,

To whom, and to Mr. PRINCE, at JOHN GOULD, Esq.'s, 20, Broad Street, Golden Square, London, applications may be made for Copies.

In One Vol. 8vo, price £2 : 2*s.*, with 45 Coloured Plates,

A

MONOGRAPH OF THE BIRDS

FORMING

THE TANAGRINE GENUS CALLISTE.

BY

PHILIP LUTLEY SCLATER, M.A.,
Fellow of Corpus Christi College, Oxford,
F.L.S., F.Z.S. &c.
John Van Voorst, 1, Paternoster Row.

Also, by the same Author,

A SYNOPSIS OF THE FISSIROSTRAL FAMILY BUCCONIDÆ,

Accompanied by Four Coloured Plates of hitherto unfigured species.
1 Part, sewn, price 4*s.* 6*d.*
John Van Voorst, 1, Paternoster Row.

Just Published, price 5*s.*, with Map and Coloured Vignette,

SPORTING IN ALGERIA.

BY

EDWARD VERNON HARCOURT.

"Mr. Harcourt's book is an interesting, well-written sketch of the principal things which attracted his attention during his stay in Algeria."—*Saturday Review.*

"These letters are most agreeable reading; we strongly recommend the study of them. It will amuse the embryo traveller, and instruct the enterprising sportsman."—*Field.*

"The letters are very well written, and our best thanks are due to the author for giving us the benefit of his experience and observations."—*St. James's Chronicle.*

"Mr. Harcourt has given us a very agreeable and clever book, which combines with much amusement a great deal of valuable information."—*Illustrated News of the World.*

"In Mr. Harcourt's volume the reader will find many interesting anecdotes. The author has not attempted to throw an air of romance on his adventures, but where nothing is exaggerated there is more to credit."—*Atlas.*

Hastings: George Lindridge, Library, 35, Robertson Street.
London: Hamilton, Adams, and Co.

CONTENTS OF NUMBER IV.

Page

XXXIII. List of Birds observed and collected during a Voyage in the Red Sea. By Dr. THEODOR VON HEUGLIN. Edited and Translated by Dr. G. HARTLAUB. (Plates X and XI.) 337

XXXIV. Five Months' Birds'-nesting in the Eastern Atlas. By OSBERT SALVIN, B.A., Corr. Memb. Zool. Soc. Part III. 352

XXXV. Observations on the Birds of St. Croix, West Indies, made between February 20th and August 6th 1857 by ALFRED NEWTON, and between March 4th and September 28th 1858 by EDWARD NEWTON. Part IV. (Plate XII.) 365

XXXVI. On the occurrence of White's Thrush (*Oreocincla aurea*) near Stratford-on-Avon, with remarks on the genera *Oreocincla, Turdus,* and *Merula.* By ROBERT F. TOMES, F.Z.S. 379

XXXVII. List of Birds of Prey received from Beyrout. By JOHN HENRY GURNEY, M.P., F.Z.S. 389

XXXVIII. Descriptions of six new species of Birds. By DANIEL G. ELLIOT, of New York. (Plate XIII.) 391

XXXIX. On the Habits of the Black-winged Stilt, as observed on its occurrence in Sussex. By A. E. KNOX 395

XL. Note on the Breeding and Mode of Capture of the Short-tailed Petrel, or Mutton Bird (*Puffinus obscurus*), in the islands in Bass's Straits. From the Journal of ROBERT ELWES 397

XLI. Notes on some of the Humming Birds of Ecuador figured in Mr. Gould's Monograph. By Dr. WILLIAM JAMESON, of Quito, and LOUIS FRASER, Corr. Memb. Zool. Soc. 399

XLII. Review of Herr BÄDEKER'S and Dr. BREWER'S Oological Works 400

XLIII. On the Ornithology of Northern Africa. By the Rev. H. B. TRISTRAM, M.A., F.L.S. Part III. The Sahara (*continued*) 415

XLIV. A List of the Tyrant Birds of Mexico, with descriptions of new species. By PHILIP LUTLEY SCLATER, M.A. (Plate XIV.) 436

XLV. Note on Pel's Owl (*Scotopelia peli*). By JOHN HENRY GURNEY, M.P., F.Z.S. (Plate XV.)............... 445

XLVI. Letter from Mr. WALLACE concerning the Geographical Distribution of Birds.............................. 449

XLVII. Recent Ornithological Publications.................. 454

XLVIII. Letters, Extracts from Correspondence, Notices, &c. 461

Index of Names of Authors 475

Index of Scientific Names 479

Title Page, Introduction, and Contents to Vol. I.

⁂ 'The Ibis' is published in parts, at the beginning of each quarter, forming an annual volume of about 400 pages, illustrated by twelve coloured plates of birds and eggs.

It is requested that all Communications for the Editor may be addressed, post-paid, to the Care of Messrs. Trübner and Co., 60, Paternoster Row, London, E.C. The annual subscription of £1 : 1*s.* should be paid to Messrs. Trübner and Co. direct; whereupon the subscriber, if resident in the United Kingdom, will receive the numbers post-free on the day subsequent to their publication.

It is also requested that subscribers wishing to discontinue their subscriptions will give notice thereof to Messrs. Trübner before the 1st of January next.

rm 56

The Ibis
1859 V
FEB 23 1950
10 27 '55
The Ibis
FEB 23 1950
FEB 23

AMNH LIBRARY
100109425